

Attempted Suicide and Social Support

Attempted Suicide and Social Support

by

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in the Department of Psychology**

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I certify that this thesis contains no material which has been accepted for the award of any other higher degree or graduate diploma in any university, and that to the best of my knowledge and belief the thesis contains no copy or paraphrase of material previously published or written by another person, except where due reference is made in the text of the thesis.

Elaine E. Hart

Abstract

Investigation of the role of social support in the development and maintenance of attempted suicide has rarely gone beyond the relatively uncontrolled clinical study. The present series of control group studies of suicidal and non-suicidal individuals investigated the role of social support deficits in the occurrence of attempted suicide, and documented changes in social support after the act using well-defined measures of this variable.

An initial study comparing suicide attempters interviewed at the time of their attempt and again six weeks later with non-suicidal controls, revealed a range of social support deficits. However the suicidal group recorded significant improvement on several indices of social support and a lessening of the wish to die over the period of study.

Two further sets of analyses were performed upon this data set in order to identify relatively homogeneous subtypes within the sample, and to study the quality and changing status of social support for each of the subtypes. Application of cluster analyses to demographic and background data produced three clusters within the suicidal group, which when compared with the non-suicidal control group, demonstrated few readily interpretable subtype differences in social support. In a second control group study, two suicidal subtypes formed on the basis of the existence of psychiatric disorder, revealed different patterns of change over a follow-up period.

The results of attempts to replicate these findings with a new sample which included a non-suicidal psychiatric control group suggested that the reported social support deficits were not unique to suicide attempters. The occurrence of a suicide attempt rendered change in social support much more likely, but such changes were also influenced by the presence and nature of psychiatric disorder within the suicidal groups. The results of this study, which found a relationship between other symptomatology, personality measures such as self competence, and social support variables, also raised questions regarding the nature of reported deficits.

The findings of this thesis support two directions for future research. The first is a further investigation of the social support of the suicidal individual and the second is study of the cognition and emotion of such individuals. Despite the evident difficulties with a discrete, relatively uncommon behaviour like attempted suicide, it is proposed that future design strategies might encompass the single case experimental design or post hoc cross-sectional study of larger samples.



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Chapter 1

Introduction to the Investigation

1.1 Incidence and Trends

It has been reported that approximately 1% of the general population die by suicide, with World Health Organisation estimates of about 1000 suicides a day throughout the world (Roy, 1985a). Considered to be the tenth leading cause of death in the United States, the annual adult suicide rate has been reported to be 11 per 100,000 population in the United States (Ranieri et al., 1987) and 9 per 100,000 in England (Sainsbury, 1986). Although the behaviour has caused particular concern in relation to the young (e.g. Stivers, 1988), it is exclusive to no particular subgroup of the population.

Reported trends in suicide rates differ from nation to nation, and have varied over the course of this century (Boyd, 1983; Burvill, 1980; Dorsch & Roder, 1983; McClure, 1984; Seiden & Freitas, 1980; Snowden, 1979). This may be attributed to variations in the accuracy of methodology, but also to the complexity of the problem and the heterogeneity of the population under study. The majority of international epidemiological studies, however, have reported increases in suicide rates in recent years (Ahlburg & Schapiro, 1983; Dyck, Newman, & Thompson, 1988; McClure, 1984; Moens, 1984). The rates have increased especially in relation to adolescents and young adults (Cosand, Bourque, & Kraus, 1982; Diekstra, 1985; Dorsch & Roder, 1983; Frederick, 1978; Hellon & Solomon, 1980; Maris, 1985; Moens, 1984; Seiden & Freitas, 1980).

The incidence of suicide attempts is more difficult to evaluate because of concealment of the behaviour and the absence of comprehensive registration. Even statistics based on hospital treated attempts are subject to error and uncertainty (Platt, Hawton, Kreitman, Fagg, & Foster, 1988).

Estimates of the incidence of the behaviour have been shown to vary as a function of the population subgroup studied, but a lifetime incidence of attempted suicide in general population samples in the range of 1%-4% has been reported (Lester, 1983). Conservative estimates, using hospital presentations as an index of suicide attempters, have suggested that there may be from six-to-ten individuals who attempt suicide for every one who completes (Bille-Brahe & Juel-Nielsen, 1986; Pokorny 1968; Robins, 1986; Stengel, 1969a). However, age and sex specific estimates have revealed considerably higher ratios of up to 160 suicide attempts for every completed suicide (Choquet, Facy, & Davidson, 1980; Kreitman, 1977).

The importance of this ratio becomes more apparent when one considers that those who have made an attempt are more likely to go on and complete. In the first year after an attempt approximately 2% of attempters kill themselves, and with follow-up over five or more years about 10% are likely to suicide (Batchelor & Napier, 1954; Dahlgren, 1977; Kreitman, 1977; Retterstol, 1974; Schmidt, O'Neal, & Robins, 1954). This rate is 35-100 times the rate of completed suicide in the general population (Kreitman, 1977; Pokorny, 1968), and is also distinct from the rate within the psychiatric population (Tefft, Pederson, & Babigian, 1977). Suicide attempters are, therefore, a population at considerable risk of completing suicide.

International or even national trends in the rate of attempted suicide are not readily available. However, a consistent finding of single city and regional studies of attempted suicide has been the dramatic increase in the incidence of behaviour during a 20 year period from the early 1950s. Reports from many different western countries, including Great Britain (Aitken, Buglass, & Kreitman, 1969; Alderson, 1974; Bancroft, Skrimshire, Reynolds, Simkin, & Smith, 1975; Gibbons, Elliot, Urwin, & Gibbons, 1978; Hawton, Fagg, Marsack, & Wells, 1982; Holding, Buglass, Duffy, & Kreitman, 1977; Jones, 1977; Smith, 1972; Smith & Davison, 1971), the Netherlands and West Germany (Diekstra, 1982), the United States of America (Weissman, 1974; Weissman, Paykel, et al., 1973; Wexler, Weissman, & Kasl, 1978) and Australia (Edwards & Whitlock, 1968a, 1968b; Mills, Williams, Sale, Perkin, & Henderson, 1974), have documented this trend.

More recently the findings of epidemiological investigations have shown greater variability. The rate of attempted suicide has continued to increase in some countries such as Denmark (Bille-Brahe & Juel-Nielsen, 1986; Hansen & Wang, 1984) and Northern Ireland (McAleer, Murphy, Taylor, Moran, & O'Connor, 1986), but in others such as Great Britain (Alderson, 1985; Hawton, Fagg et al., 1982; Platt et al., 1988) and Australia (Koller & Slaghuis, 1978) a stabilisation or a reversal of this trend has been recorded.

While these discrepancies may reflect geographical differences, they may also be a function of methodological issues, variations in definition of the

behaviour, and in the nature of assessment and data collection. Reservations about the accuracy of these figures, however, do not invalidate the generally held perception of attempted suicide as a significant public health problem (e.g. Wexler et al., 1978) by which a considerable burden is imposed upon medical (e.g. Gibbons, Elliot et al., 1978) and psychiatric services (Pallis, Langley, & Birtchnell, 1975).

Research findings have documented a considerably increased workload for accident and emergency and general medical departments in relation to deliberate self-poisoning (e.g. Lawson & Mitchell, 1972; McAleer et al., 1986). Reported during the 1970s to account for approximately 20% of all medical emergencies or acute admissions and 10% of all general medical ward admissions in British hospitals (e.g. Jones, 1977; Lawson & Mitchell, 1972; Smith, 1972), deliberate self-poisoning became the most common reason for acute admission of women to hospital and second only to ischaemic heart disease as the most common reason for men (Farmer, 1986).

While the demand for intensive care unit resources has not increased (e.g. McAleer et al., 1986), and the majority of such admissions (67%) continue to be diagnoses of myocardial infarctions or other cardiovascular diseases, intentional drug overdose nonetheless represents 5% of intensive care unit admissions (McAleer et al., 1986; Thibault et al., 1980) and the third most common problem requiring this expensive high technology care (Thibault et al., 1980). Further, suicidal individuals, and suicide attempters in particular, have been shown to make greater long-

term demands on psychiatric resources than other types of patient, spending significantly more days in hospital and making more outpatient attendances (Pallis et al., 1975).

1.2 An overview of the study

This thesis presents a study of the nature and the role of social support in the development, occurrence and maintenance of suicidal behaviour. A review of the major theoretical positions concerning suicidal behaviour, highlighting the increasing emphasis given to the social context of the act, is presented, together with consideration of relevant empirical research. The latter, which is largely atheoretical, or but loosely based on one of two major theoretical approaches, the psychoanalytic or the sociological, encompasses a range of social relationships and deficits which at various times have been linked with attempted suicide.

Psychoanalytic contributions, beginning in a systematic fashion with Freud's 1917 paper "Mourning and Melancholia" (Freud, 1917/1957) seek to explain suicidal behaviour primarily in terms of the personality and psychopathology of the suicidal individual, linking suicidal behaviour invariably with psychiatric disorder. However, later developments of Freud's theoretical position, to a much greater degree, recognise the role played by the suicidal individual's social environment, describing the acting out of internalised conflicts within the context of active conflict with significant others (e.g. Stengel, 1969a).

Despite wide criticism of the psychoanalytic position on suicidal behaviour, no other comprehensive personality based theory of suicidal behaviour has been proposed (Lester, 1972). A range of personality traits, many with a bearing on the social context of the act, have been linked with attempted suicide by writers such as Neuringer (1974a), Wetzel (1975a, 1976a), Wenz (1976, 1979a, 1979b) and others (e.g. Boor, 1976a, 1976b; Irfani, 1978; Mehryar, Hekmat, & Khajavi, 1977; Silberfeld, Streiner, & Ciampi, 1985), but few reliable results have been identified (Lester, 1983). The inability of trait theories of personality to adequately accommodate situational factors in the prediction of behaviour (Phares, 1988a) render this inconsistency not entirely unexpected. It will be argued in this thesis that social learning theory conceptualisations of personality (Bandura, 1977, 1982; Mischel, 1979) may provide a more profitable understanding of suicidal behaviour, and that such an approach is supported by reports of differences in the cognitive style and content of suicidal and non-suicidal individuals (e.g. Ellis & Ratliff, 1986; Neuringer, 1976; Patsiokas, Clum, & Luscomb, 1979).

Sociological accounts of suicidal behaviour, while more obviously concerned with the influence of the social environment upon suicidal behaviour, focus primarily upon suicide rates rather than the prediction of individual cases. The rates of suicidal behaviour have been reported to vary with a number of sociological factors including race, occupation, social class, education, marital status, religion, war, immigrant status, the economy, and reviews of this literature can be found in McCulloch and Philip (1972) and more recently in Lester (1983). Attempts by later

researchers to operationalise the concepts of Emile Durkheim (1897/1951), who provided the first and most familiar of the sociological accounts of suicidal behaviour, are presented in order to illustrate the increasing focus on interpersonal factors rather than broad societal characteristics (e.g. Gibbs & Martin, 1964).

Similarly, it will be demonstrated that clinical studies are placing increasing emphasis on the role of interpersonal factors rather than intrapsychic constructions in explanations of the aetiology and maintenance of suicidal behaviour. A useful way to examine this now vast literature concerning the social environment and suicidal behaviour is to classify research findings on the basis of their different temporal perspectives.

Research concerned with identifying significant precursors of the behaviour provides numerous reports of an association between attempted suicide and an early history of dysfunctional parent-child relationships, a broken home, and parental loss. Some of the more recent examples are provided by the work of Adam (Adam, Boukoms, & Streiner, 1982; Adam, Lohrenz, Harper, & Streiner, 1982), of Goldney (1981) and of Yesavage (Yesavage & Widrow, 1985). Other ongoing long-term vulnerability factors include situations of social isolation (e.g. Bille-Brahe & Wang, 1985; Politano, 1978), and poor familial (McKenry, Tishler, & Kelley, 1982; Rosenbaum & Richman, 1970) and other interpersonal relationships (Mitchell & Lawson, 1974; Stephens, 1985; Topol & Reznikoff, 1982). These dysfunctional relationships are generally

characterised by impaired communication (Bhagat, 1976; Bonnar & McGee, 1977; Shagoury, 1972), rejection experiences and the limited provision of support (Asarnow & Carlson, 1988; Jacobs, 1980; McKenry et al., 1982; Williams & Lyons, 1976). Conflict with a family member or significant other, within the context of these long-standing relationship difficulties, commonly represents the more immediate precipitants of attempted suicide (e.g. Bouknight, Alguire, Lofgren, & Hoppe, 1985; Daradkeh & Al-Zayer, 1988; Edwards, Cheetham, Naidoo, & Griffiths, 1981; Orr, 1985).

There is also considerable evidence from clinical studies of a change in the social environment of the attempter following the act. Positive change in family and interpersonal relationships is frequently reported (e.g. Adam, Valentine, Scarr, & Streiner, 1983; Lukianowicz, 1975; Rubenstein, Moses, & Lidz, 1958; Stengel & Cook, 1958; Williams & Hanson, 1976), as is the observation that the achievement of these changes is a goal of the attempt (Lukianowicz, 1975; Rygnestad, 1982; Williams & Hanson, 1976). Findings such as these have generated formulations of suicidal behaviour as a care-eliciting (Henderson, 1974), a manipulative (Sifneos, 1966), an operantly shaped behaviour (Bostock & Williams, 1975), and an act with a well recognised appeal function (McCulloch & Philip, 1972; Shneidman & Farberow, 1965; Stengel, 1969a). It will be argued that these observations, together with the well documented cognitive distortions of the suicidal individual (Beck, Rush, Shaw, & Emery, 1979; Ellis & Ratliff, 1986; Neuringer, 1976, 1979; Patsiokas et al., 1979) also lend substance to a formulation of suicidal behaviour based upon behavioural and cognitive-behavioural propositions.

From a variety of theoretical perspectives and range of clinical findings the focus of research has increasingly become the social context of the act. The control exercised in these investigations has varied considerably, as has the defined subject population, the type of relationships examined and the features assumed to be of functional significance. While it is argued that a wide variety of social contexts, social deficits and social relationships have been implicated in the development, occurrence and maintenance of suicidal behaviour, it is proposed that these may profitably be examined with the concepts and instruments of social support.

The last two decades have seen considerable development in the conceptualisation of the social environment and in methods for identifying those elements of social relationships which may be related to psychiatric and physical disorder. Among the more influential developments at the time of the inception of this study were the emphasis being placed upon the concept of social support and the provisions of social relationships as distinct from the structural elements of social network, and recognition of the need to identify and better assess aspects of the social environment relevant to the prediction and treatment of the individual case. One illustration of this is provided by Henderson's examination of the relationship between social environment and neurosis (Henderson, Byrne, & Duncan-Jones, 1981), which drew together several theoretical streams of thought and a range of clinical and epidemiological observations in its conceptualisation of the social environment and which provided one of the more sophisticated measurements of this concept.

The purpose of this study is:

- (i) to examine patterns of social support associated with the occurrence of attempted suicide; and
- (ii) to document changes in social support consequent to the act, which may be related to the motivation for the act, or which may serve as reinforcers increasing the likelihood of its reoccurrence under similar circumstances.

1.3 Treatment implications of the study

Discussion of psychotherapeutic considerations in the management of suicidal individuals has repeatedly stressed the importance of the role of the social environment. Assessment of the suicidal individual, not only from the perspective of formulation of an orthodox psychiatric diagnosis but including an assessment of personality, a social analysis, and an attempt to understand the many intrapersonal motivations for the attempt, is recommended by Kreitman (1979). Kiev (1975) reflects the thoughts of many researchers and therapists in the area (e.g. Birtchnell, 1983; Kreitman, 1979) when he states that

The management of the suicidal patient must consider not only the treatment of the patient's specific psychiatric condition but also modification of the patient's social environment, his attitudes and those of significant others toward his illness and need for treatment.
(p. 354)

Identification of features of the social environment related to the occurrence of attempted suicide would establish the modification of these features as an appropriate therapeutic endeavour. Few examples of this therapeutic approach whereby, for example, the extent or adequacy of social support available to the suicidal individual is directly targeted for change, have been reported.

Efforts to enhance or introduce supportive interpersonal networks might involve the facilitation of attempter participation in support or self-help groups, or broader mainstream community activities via direct advocacy or social skills training. One example of this approach is found in Deykin's (Deykin, Chung-Chen Hsieh, Joshi, & McNamarra, 1986) report of an attempt to provide suicidal adolescents with access to a community social worker who would act as a primary source of support and their advocate in relations with family and community agencies, facilitate use of available social supports and, if necessary, develop new ones. While the programme increased compliance with medical recommendations it did not reduce the likelihood of repetition. However, it is not clear how effectively this service was delivered, to what degree each individual was involved, and the study focuses on health professional rather than personal support systems. The less direct attempts to modify the range of the attempter's interpersonal relationships by focusing on teaching the individual social or interpersonal problem solving skills do appear to have met with some success (Bartman, 1976; Liberman & Eckman, 1981).

Work with the attempter's existing support system in order to change the nature of interpersonal interactions might take a variety of forms. Kiev (1975, 1981) advocates the introduction of training in stress management and problem solving skills for the suicidal individual in order to help the individual cope with an unsupportive and sometimes noxious social environment. A role for family therapy in the management of suicidal behaviour has been recognised (Richman, 1979) but requires further empirical validation.

An outpatient programme designed to respond to adolescent precipitated crises, including suicidal behaviour, by restructuring and mobilising the family's kinship system was found to be effective in improving individual and family functioning and a follow-up period of six months indicated little repetition (Gutstein, Rudd, Graham, & Rayha, 1988). However, the study did not employ a control group and the sample was self-selected for treatment.

As part of a multi-therapy intervention package which was successful in reducing subsequent suicidal behaviour, Liberman and Eckman (1981) employed family negotiation and contingency contracting which focused on improving communication and the mutual exchange of responsibilities and privileges between the suicide attempter and family members. Suicidal individuals randomly allocated to a brief programme of behaviour therapy showed a greater degree of improvement in employment, suicidal ideation, depression scales and psychological tests, than those given an equal exposure to insight therapy. Significantly, the rates of repetition for

the two treatment groups were comparable, but comparison of the number of attempts made by the sample in the two year periods prior to and following treatment suggested that the occurrence of the behaviour had been reduced by intervention.

The social work service for self-poisoners evaluated by Gibbons, Butler, Urwin, and Gibbons (1978) did not have any impact upon the likelihood of repetition. This service employed the method of task centred case work in which the focus was the attempter in the context of his/her close relationships, but it stopped short of really targeting available social support or the social network as the locus of change.

Demonstration of positive changes in social support following the attempt has implications for a behavioural and cognitive-behavioural understanding of the behaviour and, therefore, for interventions of this type. Behaviourally based intervention approaches have been so far applied only in a limited way and have not been the subject of systematic evaluation, but individual clinical cases have provided encouraging results (e.g. Bostock & Williams, 1974; Elliot, Smith, & Wildman, 1972).

Inpatient contingency management programmes, attempting to address the problem of inadvertent reinforcement of suicidal behaviour by employing reinforcement principles, have met with some success in reducing the frequency of repeated suicidal behaviour and in increasing adaptive behaviour (Bostock & Williams, 1974; O'Farrell, Goodenough, & Cutter, 1981). A successful multiple therapy treatment of repeated suicidal

behaviour, which employed systematic desensitisation procedures to make suicidal thoughts and behaviours too punishing to engage in, and appropriate social thoughts and behaviours more rewarding has been described by Elliot (Elliot et al., 1972). In order that adaptive behaviour might be received more favourably, attitude change on the part of those close to the attempter using cognitive restructuring procedures has begun to receive attention (Zich, 1984). Zich illustrates, with a single case study, the development of a new cognitive set in treatment staff caring for a repeated suicide attempter in which reframing of suicidal behaviour is encouraged, the perception of maladaptive behaviour is shifted from the attempter's goals to his/her methods, and new treatment rationales are offered to staff.

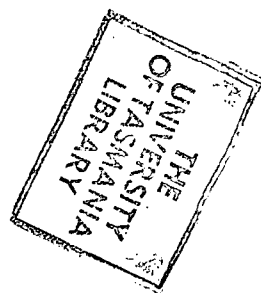
While behavioural paradigms have made significant contributions to the management of dysfunctional behaviour, the shift in behaviour therapy in the 1970s to a more cognitive framework generated many novel and successful treatment techniques. The importance of cognitive-behavioural interventions (Ellis, 1986) and the need for a more systematic combination of psychotherapy and cognitive treatment models (e.g. Cullberg, Wasserman, & Stefansson, 1988) is paralleled in the suicide literature. The well documented vulnerabilities of suicidal individuals, such as rigid and dichotomous thinking, poor problem solving, hopelessness, and a view of suicidal behaviour as a desirable solution (Ellis, 1986), indicate a significant role for the cognitive behaviour therapy in the management of suicidal behaviour, a view which is supported by the results of published treatment case studies (e.g. Ellis & Harper, 1975; Horton & Johnson, 1980; Nidiffer, 1980).

Targeting for change the attempter's perceptions of or expectations of social network via cognitive restructuring or coping skills training may, therefore, have merit. The cognitive therapy of depression (Rush & Beck, 1978), with its behavioural and verbal techniques designed to replace existing negative cognitions with more realistic positive ones, may have a role to play, as would interventions which target coping and problem-solving skills and focus on improving problem identification and the generation and testing of potential solutions (D'Zurilla & Goldfried, 1971; Spivack, Platt, & Shure, 1976).

Outcome studies have shown that repetition of suicidal behaviour is less likely for individuals who elect to attend any follow-up treatment than for those who have no follow-up, and for those undergoing prolonged rather than brief treatment (e.g. Greer & Bagley, 1971; Kennedy, 1972). A review of treatment programmes for suicidal behaviour has concluded that "...there is little evidence that aggressive aftercare treatment of those who do not elect treatment is of much consequence" (Clum, Patsiokas, & Luscomb, 1979, p. 943). However, these reports are concerned with the assessment of groups self-selected for treatment, and well controlled treatment outcome studies are rare (Adam, 1985).

The results of existing randomised control studies are rather mixed. They have indicated that while a variety of interventions will produce improvement in an attempter's social circumstances, impact upon the rate of repetition of suicidal behaviour is uncommon (Chowdhury, Hicks, &

Kreitman, 1973; Ettlinger, 1975; Gibbons, Butler et al., 1978; Hawton, Bancroft, Catalan, Kingston, Stedeford, & Welch, 1981). In their general review Goldney and Burvill (1980) acknowledge the impact of intervention following an attempted suicide upon social outcome, and conclude that there is evidence that intervention may be associated with less repeated suicide attempts but consider that the intensity of the required intervention is such that few hospital departments could offer this service (e.g. Termansen & Bywater, 1975; Welu, 1977). Essentially the treatment packages generally reviewed have varied the delivery of standard psychiatric and social work interventions. Little work has been done where change in social support and social network is a major objective.



Chapter 2

Theoretical and Research Approaches to the Study of Suicidal Behaviour

2.1 Introduction

This review presents an examination of the literature on attempted suicide within the framework of several theoretical approaches. It endeavours to briefly outline how each of the major approaches treats the issues of the development and maintenance of suicidal behaviour. Specific emphasis will be placed on those theoretical approaches which either have bearing on the relationship between suicidal behaviour and social support, or, as in the case of behavioural and cognitive-behavioural approaches particularly, have a strong empirical emphasis.

A general review of models relevant to the study of suicidal behaviour typically selects examples from the range of theoretical approaches which attribute the behaviour to socio-cultural influences or to the success with which developmental critical periods are negotiated. The most notable examples of these are the work of Durkheim (1897/1951) and of Freud (e.g. 1917/1957) respectively, which have been the two main threads of investigation in the modern era of study of suicide. The operation of particular schedules of reinforcement and imitation effects, and propositions of a genetic, biochemical or central nervous system basis for the behaviour, are also commonly noted (e.g. Linehan, 1981; Zubin, 1974). Many facets of biological explanations still remain unresearched, and existing evidence is considered to be equivocal or at best indicative of a limited role in the aetiology of suicidal behaviour (Linehan, 1981; Zubin, 1974). A comparison of the review articles by Zubin (1974) and Linehan (1981), however, illustrates the developing interest in behavioural and cognitive-behavioural approaches.

The limitations of traditional theoretical approaches to suicidal behaviour have been well documented and will be but briefly noted in this review. Psychoanalytic theory, which remains the most comprehensive attempt to address suicidal behaviour, has not proved to be particularly fruitful ground in the generation of testable hypotheses capable of proof or disproof (Phares, 1988b). The work derived from Durkheim's thesis has been primarily concerned with population suicide rates rather than individual cases, and as Zubin and others (Linehan, 1981; Stengel, 1960; Zubin, 1974) have observed its contribution to the clinical management of suicidal behaviour has been limited. Of interest to this investigation is the degree to which each of these approaches has considered the interpersonal context of the suicidal act. This review will serve to illustrate the development of interpersonal considerations.

It has been suggested that theoretical explanations of suicidal behaviour may be classified according to the degree to which they are concerned with the societal determinants of the act (Breed, 1967; Ganzler, 1967). Psychoanalytic theory and its derivatives, with a relative emphasis on intrapersonal factors, represents one end of the continuum, while the other extreme, considering behaviour in relation to larger social groups and society is typified by the work of Durkheim. One example of the intermediate position, concerned with the individual and his/her immediate interpersonal relationships, is the work of Adler (Adler, 1958; Ansbacher, 1969), but this has received less interest than the others (Breed, 1967). It is proposed that a second intermediate position is represented by the behavioural and cognitive-behavioural approaches which bring together elements of the psychoanalytic and sociological traditions.

The latter approach has a greater relevance for the prediction of individual suicidal behaviour than a sociological approach and it renders intrapersonal factors in the occurrence of suicidal behaviour more amenable to empirical test (e.g. Daitzman & Levin, 1977). Furthermore, it will be argued that a behavioural and cognitive-behavioural approach attempts a more comprehensive account of the phenomenon. It examines not simply the maintenance of the behaviour but also its acquisition and occurrence, and draws upon data relating to both antecedent events and conditions, and the social and environmental sequelae of the attempt.

2.2 Psychodynamic Approaches

The psychoanalytic school presented the first systematic and clinically oriented studies of suicidal behaviour, and initially restricted consideration to suicidal ideation among obsessive neurotics and suicidal behaviour among melancholics. The subject of much review (e.g. Futterman, 1965; Litman, 1967; Litman & Tabachnik, 1968; Stengel, 1960), it has elicited varying degrees of acceptance.

Initial postulates, outlined in Freud's 1917 paper "Mourning and Melancholia" (Freud, 1917/1957), conceptualised the behaviour as an intrapsychic phenomenon within the individual's unconscious. The central tenets of Freud's early theoretical position may be listed as follows:

(i) suicidal behaviour results from extreme depression which is precipitated by the loss of significant libidinal relations through death, rejection or disappointment;

- (ii) this depression is considered to be aggression turned inward; and
- (iii) it is directed against the lost love object which has become relocated in the ego and with which the person has identified himself.

This was not Freud's definitive statement on the matter of suicidal behaviour and it was subject to a series of revisions in subsequent years.

In a major revision of the theory after 1920 Freud (1923/1961) introduced the notion of an instinctual drive toward death co-existent, and to varying degrees fused with, the life instinct. It was proposed that self-destructive behaviour could be explained as the result this death instinct gaining temporary control of the psychic apparatus during states of emotional crisis and exhaustion. This concept never really gained the widespread acceptance of his earlier position and has remained a controversial proposition, rejected by many psychoanalysts as being too speculative, teleological, and not amenable to direct observation (Litman & Tabachnik, 1968).

Even at this time Freud's writings indicate an awareness of the role of environmental factors as in, for example, his essay "Group Psychology and the Analysis of the Ego" (Freud, 1921/1955). It was considered that the effect of cultural prohibitions against the expression of anger often was to force an individual to turn anger upon himself. However, it was for derivations of his work by others to really develop conceptions of the function of society in controlling aggressive instincts.

The next significant development of psychoanalytic theory of suicide was the work of Menninger (1938), which, like most derivations, accepted suicide as an act of inward directed aggression. Remaining closer to Freud's later formulations than many other variants, Menninger suggested a three category scheme for the classification of this hostile drive involving (i) the wish to kill, (ii) the wish to be killed, and (iii) the wish to die, but also gave greater recognition to the role of the social environment as a trigger activating childhood intrapsychic conflicts. Although perhaps less influential in popularising the psychoanalytic position on suicidal behaviour, the significance of both intrapsychic and external aetiological elements was also emphasised by Zilboorg (1936). Drawing attention to the relationship between suicide and early parental loss, he maintained that every suicidal case not only contained strong unconscious hostility but also demonstrated a notable lack of ability to love others.

The Adlerian position (Adler, 1958) further stressed the necessity of considering the individual as part of his/her social context. Among the factors considered characteristic of suicide was a life style dependent upon the achievements and support of others, inferiority feelings, high activity, and veiled aggression. The act was viewed as an attempt to manipulate significant others, and the urge to inflict pain and sorrow on relatives was considered to play a significant part in the motivation of suicide. In extreme cases suicide could be cast as an act of revenge. With subsequent formulations suicidal behaviour acquired a multiplicity of interpretations, but the emphasis on the social context of attempted suicide had become well recognised (e.g. Applebaum, 1963; Hendin, 1964; Meerloo, 1959).

However, the implications of a purely psychodynamic approach to suicidal behaviour for this investigation are clearly limited. Williams (1979) noted the essentially intrapsychic nature of the theoretical constructs underlying this approach, and emphasised the difficulties in testing hypotheses derived from such constructs, based as they are on multiple inferences from the original observable data. Stengel (1960), expressing the view that a purely intrapsychic approach had neither greatly advanced the understanding of suicidal behaviour nor improved its prediction or prevention, advocated adoption from, and integration with, the conceptual and methodological approaches of the interpersonal literature. Significantly, recent general reviews of research and theory in relation to suicidal behaviour give little indication that this process of integration has advanced (Adam, 1985; Lester, 1983).

Although greater use of psychological theories of personality as a framework for research in this area was suggested in 1972 (Lester, 1972), psychoanalysis remains the only personality theory to have addressed itself comprehensively to suicidal behaviour. However, two features of social learning theory formulations of personality as propounded by Bandura (1977, 1982) and by Mischel (1979) recommend their application to the study of suicidal behaviour. Firstly, social learning theory approaches place a considerable emphasis on cognitive variables, and there is an extensive literature concerning the unique cognitive style of the suicidal individual (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979). Further, and particularly relevant to the present investigation, social learning theories of personality recognise the importance of social

and interpersonal factors, viewing cognitions not as immutable individual traits but as characteristics responsive to and acting upon the environment. The observed change in features of an individual's suicidal behaviour such as lethality, method or intent (e.g. Kessel & McCulloch, 1966; McCulloch & Philip, 1972; Sifneos, 1966; Stengel, 1969b; Williams, Davidson & Montgomery, 1980) over time and with changing circumstances may be understood within this context. A cognitive approach to suicidal behaviour will be further discussed in a subsequent section.

2.3 Sociological Approaches

The most influential work in the study of suicide, and the initial impetus to the developing interest in interpersonal approaches to the behaviour, was Durkheim's "Le Suicide" first published in 1897 (Durkheim, 1897/1951). In response to the belief that essential characteristics of suicidal behaviour were not available for study, Durkheim's work was concerned with an analysis of the statistical patterns of population suicide rates. His work provided a theoretical framework that has remained basic to all sociological research in the area.

Durkheim (1897/1951) proposed that the rate of suicide is both a function and an indicator of the degree of social health of any given social group. Two characteristics of society, social integration and social regulation, were thought to determine social conditions which in turn influenced the suicide rate. These concepts were not specifically defined by Durkheim

himself, but they have been defined in a variety of ways by others. Social integration has been viewed as the extent to which individual members of a group act in the service of social rather than individual interests, and have common goals and beliefs (Johnson, 1965), or the total amount of social interaction (Gibbs & Martin, 1964). Social regulation is generally considered to refer to the degree of control exercised by the social group over the actions and motivations of its individual members (e.g. Pope, 1976).

According to Durkheim's (1897/1951) formulation, when social integration is low, society provides little support for or restraint of the individual. Under such circumstances, individuals become increasingly detached from social life, acting primarily or completely in the service of their own selfish interests, no longer finding meaning in life. Any cause of discouragement may give rise to suicidal feelings, and what has been termed egoistic suicide. Protection from low degrees of social integration is provided by family ties, political affiliations and participation in religions with strong group ties. Conversely, when social integration is excessively high, social interests take priority over individual interests, and individual members readily sacrifice themselves in acts of altruistic suicide.

When the second factor, social regulation, is lessened perhaps by social or economic forces, individual's find themselves in new circumstances to which the old rules are inapplicable. Consequently, they are freed from social restraints, needs increasingly outstrip means, and the resulting disequilibrium creates more unhappiness, which manifests itself in higher suicide rates" (Pope, 1976, p. 26). Suicide resulting from such a process

is labelled anomic. On the other hand, excessive regulation, by blocking individual aspirations, desires, and attempts to change, precipitates increased rates of fatalistic suicide as a result of the despair it produces.

Common criticisms of Durkheim's formulation (see Lester, 1972 for review) have included:

- (i) Durkheim's failure to provide clear definitions of his theoretical concepts;
- (ii) the relative lack of guide-lines for operationalising the theoretical concepts. For example, it has been argued that there exists an overlap between the concepts of egoistic and of anomic suicide which makes the theory difficult to falsify but adds little explanatory power (Pope, 1976);
- (iii) judgements of his methods of analysis to be inadequate by contemporary standards (Lester, 1972; Pope, 1976); and
- (iv) challenges to the accuracy of some of Durkheim's supporting data (Henry & Short, 1954) and a lack of empirical support for the theory. Research conducted by others has, by and large, undermined the theory by failing to conform to theoretical expectations (Pope, 1976).

Further, commentators have consistently pointed out that Durkheim's theory is not a theory of suicide, but rather a study of suicide rates (Pope, 1976). Therefore, while the theory might be useful in explaining group differences in suicide rates or even predicting changes in the suicide rate for a social group (Pope, 1976), it is not useful in individual cases for predicting risk or generating effective treatment (e.g. Jacobs, 1980).

In response to problems such as these Durkheim's formulation has been subject to a considerable number of modifications and attempted clarifications. Later sociological accounts of the phenomenon of suicide have followed Durkheim's lead in attempting to explain variations in rates of suicide among social groups and categories, and in using official suicide rates reported by various sources as their empirical data. However, it is argued that in attempting to more explicitly define and operationalise theoretical concepts greater attention has been given to the immediate interpersonal environment of the suicidal individual. Some proposals, like that of Henry and Short (1954), have attempted to reconcile their approach with psychological explanations, while others like that of Gibbs and Martin (1964) have adhered more closely to Durkheim's original sociological approach.

Gibbs and Martin (1964) proposed that the relative stability and durability of social relationships within a population, which varied directly with the extent to which individuals in the population conformed to its socially sanctioned demands and expectations, determined the suicide rate. At any one time, they suggested, an individual may be required to conform to the social demands of more than one set of social categories. When conformity to one set of social demands interferes with conformity to another the categories are considered to be incompatible, to cause the individual difficulty maintaining social relationships, and they are less frequently occupied simultaneously than compatible categories. The status integration of a population, which is defined as the degree to which the members of that population occupy compatible categories, varies inversely with the suicide rate.

The Henry and Short (1954) thesis, drawing upon the psychoanalytic approach, considered suicide to be the product of frustration-generated aggression directed against the self. However, it also introduced the hypothetical constructs of horizontal and vertical external restraint, the forces by which the expression of this aggression could be curbed. Restraint, defined as the degree to which an individual's behaviour conformed to socially determined demands and expectations, was determined by two factors, the strength of one's relational system and one's status position (based on socioeconomic and other indices). Restraint derived from subordinate status or from interpersonal relations conferred relative immunity from suicide.

It is apparent that sociological theories have become more explicit and have evolved in the direction of increased emphasis on interpersonal factors as opposed to broad societal characteristics. However available empirical data for the Henry and Short (1954) formulation has frequently not been supportive (e.g. Lester, 1983; Maris, 1967; Tuckman, Kleiner, & Lavell, 1959) and empirical support for the Gibbs and Martin (1964) formulation is limited (Jacobs, 1980; Lester, 1983). The major contribution of sociological work has been to general theory building, with few specific concepts being successfully validated (Douglas, 1967).

2.4 An Overview of Behavioural and Cognitive-Behavioural Approaches

A framework for speculation concerning the relationship between behaviour theory and suicidal behaviour has been provided by

behavioural and cognitive-behavioural treatments of related behaviours such as depression and self-mutilation (Bachman, 1972; Bennun, 1984; Carr, 1977; De Catanzaro, 1981). Mechanisms within this framework germane to the development and maintenance of attempted suicide will be reviewed, with relevant empirical research highlighted. Particular consideration will be given to those mechanisms by which various aspects of the social environment may be linked to the occurrence of suicidal behaviour.

While a review of a range of cognitive-behavioural approaches marks a return to consideration of the intrapsychic, it does so within a context more amenable to empirical test than the previously discussed work of Freud. Their inclusion reflects the complexity of the relationships under consideration, and underscores the observation that while interpersonal relationship difficulties may be a predisposing factor for suicidal behaviour, clearly not all individuals with similar social experiences engage in the behaviour. The potential for exaggeration or distortion of the social environment by the individual and for overt behaviour to be indirectly influenced by these cognitions is acknowledged. Features of the suicidal individual's social environment as reported by both the attempter and others assessed will be detailed in the next chapter.

Specifically, this review will explore the implications for suicidal behaviour of behavioural mechanisms related to the processes of tension reduction, learned avoidance, modelling and operant conditioning. The application of cognitive-behavioural approaches will be considered in the first

instance by examining the relevance of the major cognitive approaches to depression, those of Beck and of Seligman. However, treatment of cognitive behavioural approaches will be extended beyond the depressed suicide attempter by examining the contributions of cognitive theorists with a more general application such as Cautela (e.g. Cautela & Kearney, 1986), Ellis (e.g. Ellis 1970), and Meichenbaum (1977).

2.4.1 Early Behavioural Formulations

It is generally acknowledged that one of the earliest attempts to integrate data on suicidal behaviour and behaviour theory is represented by Frederick and Resnik's (1971) discussion of suicidal behaviour in terms of Hullian learning. This perspective advances the proposition that tension reduction which is contingent upon an act, may be viewed as a reinforcing consequence which increases the probability that the specific behaviour or related behaviours will occur again in the future.

Support for this proposition in relation to suicidal behaviour is found in the observation that suicidal acts invariably occur in response to an increasingly stressful situation, and in reports of an immediate reduction of tension, even pleasure (Graff & Mallin, 1967; Simpson, 1975), or a catharsis of psychiatric symptoms (Newson-Smith & Hirsch, 1979) following the act. The occurrence of such a mechanism has been particularly noted in relation to impulsive attempts (Williams et al., 1980) and to the act of wrist-cutting (Simpson, 1975).

A related proposition, which owes something to the behavioural formulations of self-mutilating behaviour (Bennun, 1984 for review), interprets the act as a learned avoidance response which facilitates withdrawal from a temporarily intolerable situation. The operation of this mechanism, which takes a somewhat broader perspective and is more clearly a function of the social environment than the tension-reducing proposal, has received little recognition to date. While a considerable amount of work has suggested an escape or respite function, or a prominent avoidance motivation for suicidal behaviour (Henderson & Lance, 1979; Henderson & Williams, 1974; Katschnig & Steinert, 1975; Kessel, 1966; Kreeger, 1966), these theoretical speculations and empirically based inferences have not generally been framed in terms of behaviour theory.

Examination of the meaning of suicidal behaviour for young attempters using a repertory grid technique (Parker, 1981), for example, has identified a more or less exclusive escape or respite function for low intent attempters. A systematic study of the motivational aspects of deliberate self poisoning by Hawton (Hawton, Cole, O'Grady, & Osborn, 1982) reports similar findings, with the desire "to get relief", "to escape" and "to show desperation" being those principally endorsed by attempters. Furthermore, with respect to suicidal behaviour in the young, Gould (1965) states that "the conscious reason for the suicidal attempt seems to be that it is an escape from a situation too difficult to face" (p. 236).

Further, indirect evidence for the occurrence of this mechanism may be drawn from a number of sources. These include the suicidal individual's greater exposure to negative interactions and stressful life events (Isherwood, Adam, & Hornblow, 1982; Paykel, 1976; Slater & Depue, 1981) suggestive of a crisis response, and a cognitive style which constricts problem solving capacity (e.g. Levenson & Neuringer, 1971). These lines of evidence may be summarised in the comments of Kessel (1966) who considers suicidal behaviour to occur in many instances as a result of "urgent and insupportable stress", to represent an attempt "to obtain relief by temporarily withdrawing from the situation" (p. 34), and used, according to Kreeger (1966) by individuals "dependent on short periods of oblivion for temporary respite from their anguish" (p. 92).

The significance of the process of learned avoidance for the present investigation lies in the fact that the precipitant of an avoidance response may be located in a non-supportive social network, that this network may be the medium by which the avoidance response is learned, or that acceptance of social support may represent an alternative to avoidance during a crisis which is unavailable to the suicide attempter. However, this model, like the proposition concerning tension-reduction, suggests mechanisms by which suicidal behaviour may be maintained once established rather than documents its development. An adequate theory of suicide "must explain why, of all alternative acts within an individual's repertoire, which can achieve his purposes, he happens to choose suicide" (Diekstra, 1985, p. 28). Explanations of the acquisition of attempted suicide or its selection from the individual's existing behavioural

repertoire are not encompassed by these mechanisms. Consideration of these questions is given in subsequent sections of this review.

2.4.2 Social Learning Theory

The significance of a modelling factor in the acquisition of both adaptive and dysfunctional behaviour has been well illustrated by the work of Bandura (1971). The modelling hypothesis also presents a plausible mechanism by which suicidal behaviour can be initiated and allowed to develop. Diekstra (1985), for example, considers suicidal behaviour to be acquired through a process of socialisation or social learning as a method of coping with crisis. Implicit in Diekstra's thesis is the proposition that experience of others exhibiting the behaviour introduces it as a situationally appropriate coping behaviour and lessens constraints against it, as well as providing the opportunity to be aware of or to observe any favourable outcome or other forms of reinforcement.

Evidence of the significance of modelling factors may be drawn from a range of studies concerned with apparent epidemics of suicidal behaviour, the impact of media publicity on suicide rates, and the incidence of suicidal behaviour in the family history and social networks of suicide attempters. The first two of these research areas, which are less immediately relevant to the role of social support in the occurrence of suicidal behaviour, have been reviewed by Lester (1987) together with data concerning suicide pacts and fashions in methods. Only a brief review of the more recent investigations on these topics will, therefore, be given here.

The present investigation is also less concerned with suicidal behaviour demonstrated by the attempter's social network than with the social support immediately available to the attempter. Hostility and lack of support from significant others has been identified by Holinger (1977) as a significant predisposing factor of imitative suicidal behaviour within the family. Therefore, it is argued that while examination of available social support does not provide direct evidence in support of the modelling hypothesis, it does give some indication of the integrity of the attempter's social network and the likelihood of more adaptive, support-giving behaviours as an alternative to suicidal behaviour being modelled.

The most recent review of reports investigating the incidence of suicidal behaviour among the families and friends of suicidal individuals concluded that just as many studies report an excess as do not but that no study found a lower incidence of suicide in the significant others of suicidal individuals (Lester, 1987). The role of the family in the modelling process has been recognised by Lester (1987) within the context of Richman's discussion of the attempter's family as a pathological system (Richman, 1986).

Susceptibility to contagion and to imitation effects may be greatest among the young (Evans, 1967) and could have greatest significance for subtypes such as wrist-cutters (Henderson & Lance, 1979) where untreated outcome is less severe and the likelihood of intervention is high. It has been suggested (Tishler, McKenry, & Morgan, 1981) that the incidence of suicide and depression in the family background of

adolescent attempters, while perhaps indicative of family pathology, also serves as a model by offering the cognitively immature adolescent a readily available solution to problems.

In support of such a proposition is the fact that almost half of the reported cases of adolescent suicidal behaviour have had direct contact with others displaying the same behaviour, with a particularly high incidence within the family history (Choquet & Davidson, 1975; Holinger, 1977; McCulloch & Philip, 1972; Teicher, 1970). In addition, the seriousness of suicidal ideation and behaviour in a college population has, on the basis of attitude surveys undertaken by Wellman and Wellman (1988), been related to the likelihood that the individual has been in contact with another suicidal person.

As it is clear that a modelled behaviour can be elicited when the circumstances resembling those of the modelling situation are recreated even if an appreciable time lag is involved (Bandura, 1971), both early developmental and ongoing interpersonal difficulties may hold significance for the occurrence of suicidal behaviour. Both areas of social support and functioning are, therefore, considered in the next chapter.

While not immediately applicable to the role of social support in the occurrence of suicidal behaviour, data concerned with seeming epidemics of suicidal behaviour provides further support for the modelling hypothesis. Repeated reference to epidemics of completed suicide is found throughout history, with the phenomenon in Eastern Europe in the nineteenth century being particularly well documented by early reports (Bakwin, 1957; Miner, 1922).

The imitative basis of suicidal behaviour has also been stressed in much of the documentation of increases in self-harm (e.g. Mills et al., 1974) which has likened the occurrence of the behaviour to hysterical disorders that are reported to sweep through girl's schools from time to time (Moss & McEvedy, 1966). Some support for this proposition is provided by a detailed sociometric description of an epidemic of self-injury in an adolescent psychiatric unit (Matthews, 1968) and observations of similar epidemics within general psychiatric hospital and university dormitory (Binns, Kerkman, & Schroeder, 1966) and high school populations (Robbins & Conroy, 1983).

The hypothesis that there is a significant relationship between the reporting of suicidal behaviour and further subsequent suicide is not of recent origin. Acceptance of this possibility in the eighteenth century led, for example, to the banning in parts of Italy, Germany and Denmark of Goethe's romantic novel "The Sorrows of Young Werther" in which the hero committed suicide. Documented expressions of official concern regarding suicide reporting continued from that time and may be found in selective reviews of historical data pertaining to the issue (e.g. Goldney, 1989; Motto, 1967). However, intensive investigation of this hypothesis has occurred only over the last thirty years (Goldney, 1989).

Although a number of the more recent studies examining the effects of media reports of genuine suicidal behaviour have provided inconclusive results (e.g. Blumenthal & Bergner, 1973; Littmann, 1985), the majority provide support for the modelling hypothesis (Bollen & Phillips, 1982;

Motto, 1970; Phillips, 1974; Phillips & Carstensen, 1986, 1988). Early findings, based upon Motto's (1970) investigation of suicide rates in cities undergoing newspaper strikes, did report a link between reduced newspaper reporting of suicide and a decrease in female suicide rates. In a series of studies spanning over a decade in both Britain and the United States Phillips and his associates (e.g. Bollen & Phillips, 1982; Phillips, 1974; Phillips & Carstensen, 1986, 1988) have repeatedly demonstrated a positive relationship between television and newspaper coverage of suicidal behaviour and an increase in suicide rates.

However, the findings of Phillips (e.g. Phillips, 1974; Phillips & Carstensen, 1986, 1988) have not been without their critics. For example, a report of the effect of television reporting of adolescent suicide (Phillips & Carstensen, 1986) has been criticised for the incompleteness of information it provides on suicide news stories, the inexactness of measures of the numbers of teenagers exposed to each story, and for the application of crude analysis methods (Kessler, Downey, Milavsky, & Stipp, 1988). Attempted replication by these independent investigators has provided results apparently inconsistent with an imitative effect. A positive association between television news stories and subsequent teenage suicides was found for only part of the period under investigation. Where a positive association did exist, no evidence that stories viewed by a larger number of teenagers were followed by a larger number of teenage suicides, nor any evidence that stories explicitly about youth suicide were followed by an increase in teenage suicides was apparent.

The impact on suicide rates of the fictional depiction of suicide has begun to emerge as an independent research question, but as yet little conclusive evidence is available. Some studies do report significant imitative effects (Gould & Shaffer, 1986; Phillips, 1982; Schmidtke & Hafner, 1988) or age and sex specific imitative effects (Platt, 1987). However, the methodological criticisms of investigations of the impact of genuine suicide stories remain relevant here (Kessler & Stipp, 1984), and attempted replications have failed (Berman, 1988; Kessler & Stipp, 1984; Phillips & Paight, 1987) or proved inconclusive (Gould, Shaffer, & Kleinman, 1988). In a particularly well-designed study which does demonstrate the occurrence of the imitation effect, however, Schmidtke and Hafner (1988) stress the importance of the degree of similarity between the model and the imitator with respect to age and sex. The issue, therefore, continues to be debated.

The parameters by which individuals can acquire a complex behaviour via the modelling process have been well described (Bandura, 1971) and appear relevant to the occurrence of suicidal behaviour in some instances (Henderson & Williams, 1974). Nevertheless, it must be acknowledged that many individuals exposed to such models do not subsequently display the behaviour and, therefore, additional causal processes must be operating in such instances. Two promising candidates for this role are operant and cognitive factors.

The emphasis placed upon individual and environmental expectations of suicidal behaviour in Diekstra's (1985) social learning formulation

implicate cognitive processes as an additional causal factor. One aspect of this formulation is the proposition that, on the basis of either learning from previous suicidal behaviour or observation, the expectation that suicidal behaviour is the most effective means by which to achieve a specific goal in a given situation, is acquired. Suicidal behaviour then has a high probability of occurrence when the set of circumstances akin to those in which the behaviour was modelled arise. Further discussion of the role of cognitive processes is presented in a subsequent section.

A process of operant reinforcement may serve as a second additional aetiological mechanism. The proposition that attempted suicide is a behaviour understandable and maintained by its contingent consequences rests on a considerable literature detailing the social effects of suicidal behaviour. It represents a further development of early conceptualisations of suicidal behaviour as a signal of distress, an appeal for help (e.g. Henderson, 1974), a means of mobilising support and intervention (e.g. Stengel & Cook, 1958) or a powerful social manoeuvre (Sifneos, 1966).

Suicide attempters have been described as individuals "largely devoid of social and emotional skills" who use "suicidal threats and gestures as one of many maladaptive behaviors in a long-standing manipulative lifestyle of 'controlling' their social relationships" (Lieberman & Eckman, 1981, p. 1130). A similar view has been expressed by Shulman and Margalit (1985) in relation to children's suicide attempts. They suggest that suicidal behaviour provides for the child a means of controlling the environment

and of coping with feelings of helplessness, through which the child gains a sense of self-efficacy, and adaptive coping strategies may be unlearned.

Endorsement of operant motivations for the attempt, whereby the attempter seeks to effect some change in the environment by the act, has identified several subtypes within the suicidal population (Henderson et al., 1977; Henderson & Lance, 1979). Sifneos (1966) who coined the term "manipulative suicide" in circumstances where "an individual attempts to control another person or persons in order to get from them what he wishes" (p. 527) considered that some 65% of his sample had engaged in manipulative acts. In approximately 30% of a sample examined by Rygnestad (1982), self-poisoning was considered by the attempter to be "a 'non-verbal argument' in a difficult situation" (p. 145).

Research focusing on the events consequent to suicidal behaviour frequently has observed the production of positive gain in 70% to 90% of the sample (Lukianowicz, 1975; Rubenstein et al., 1958; Williams & Hanson, 1976). Most frequently these positive gains or desired effects pertain to the attempters interpersonal situation. Repetition of the act has commonly been noted in response to failure of the appeal or the transient nature of consequent change (e.g. McCulloch & Philip, 1972).

On the basis of findings such as these Williams and others (Bostock & Williams, 1976; Sale, Williams, Clark, & Mills, 1975; Williams & Lyons, 1976) have proposed that contingent interpersonal manipulations following suicidal behaviour may serve to reinforce and maintain the

behaviour. They further argue that whether or not the act were originally designed to manipulate, the reinforcing success of the behaviour is readily learned, causing it to become a useful social manoeuvre in the absence of more adaptive coping behaviour (e.g. Bostock & Williams, 1975). Within such a framework Bostock and Williams (1976) have detailed a successful single case investigation illustrating an operant component in therapy.

The role played by inappropriate patterns of reinforcement in the development of related psychopathology has been addressed by Lewinsohn's (1974) view of depression as an extinction phenomenon. In relation to suicidal behaviour the progressive social isolation hypothesis of Jacobs (1980) may be understood as the gradual extinction of adaptive coping behaviour in the prospective attempter through such operant processes as non-reinforcement, punishment, and reinforcement of maladaptive behaviours. Lester's (1987) consideration of suicidal behaviour as gambling behaviour underscores the role of the attempter's significant others as reinforcers and punishers.

The significance of the operant formulation lies not only in its attempt to explain the occurrence and maintenance of attempted suicide, but in its implications for the development of the behaviour. Zubin (1974) has suggested that suicidal behaviour may be the culmination of the reinforcement of a sequence of behaviour and experiences including talk of death, injury, weapons, and exposure to hazardous situations. Similarly, Williams (1979) has proposed the gradual shaping of a suicidal response, from verbalisations concerning suicidal behaviour and

progressing through threats towards the act itself, in a process prompted by the habitual patterns of reinforcement operating in an individual's interpersonal environment. It is argued, therefore, that operant theory provides a more comprehensive model than the others so far reviewed.

A central consideration of the present investigation is the role of social support change following the attempt as a reinforcer of the act. It is argued that the potential for interpersonal change following the attempt, suggested here and detailed further in the next chapter, may serve to maintain the behaviour. Additionally, the opportunity for inappropriate reinforcement of maladaptive behaviour and the extinction of coping responses is provided by the antecedent deficits in social support and dysfunctional interaction patterns to be reviewed. This may give rise to the previously mentioned poor coping and social skills of the attempter and to the interpersonal and appeal functions of the act.

2.4.3 Cognitive-Behavioural Approaches

A major development and a logical extension of the behavioural literature has been the increasing focus on the importance of cognitive factors (Phares, 1988b). The appropriateness of a cognitive-behavioural approach to suicidal behaviour is underlined by two sets of research findings. Recognition of a link between attempted suicide and a diagnosis of depression in proportions ranging from 35%-79% of attempters (Weissman, 1974) has suggested a role for cognitive-behavioural theories of depression. Secondly, but little emphasised by behavioural reviews such as those of Linehan (1981), empirical findings of cognitive

differences between suicidal and non-suicidal individuals (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979) underscore the significance of more broadly based cognitive approaches.

Applications to suicidal behaviour of the work of two major theorists concerned with cognitive approaches to depression, Beck (e.g. Beck et al., 1979) and Seligman (Abramson, Seligman & Teasdale, 1978), will be reviewed here. In recognition of the cognitive styles of suicidal individuals, identified irrespective of their degree of depression, cognitive theories with a broader relevance based on the work of Cautela (e.g. Cautela & Kearney, 1986), of Meichenbaum (1977) and of Ellis (e.g. Ellis, 1970) will also be considered. Particular emphasis as a unifying concept will be given to the cognitive elements of Bandura's work, that is, those pertaining to the concept of self-efficacy (Bandura, 1978). It is proposed that habitual perceptions and interpretations of reality proposed within these theoretical frameworks would permit the impact of the suicide attempter's dysfunctional system of social support to be exaggerated.

The significance of cognitive factors in the aetiology of suicidal behaviour rests upon the assumption that these cognitive characteristics reflect an enduring disposition rather than a transient response to stress. Several writers consider that the occurrence of suicide is best understood as the result of a transient psychological constriction of affect and intellect, and a narrowing of the range of options perceived as available by the individual (Jacobs, 1980; Shneidman, 1984). Others consider the permanence of identified cognitive styles to be an issue on which there is no conclusive

evidence (Ellis, 1986; Neuringer, 1976). However, data from several sources have been interpreted as support for the hypothesis that many cognitive features are stable characteristics of suicide attempters (e.g. Linehan, Camper, Chiles, Strosahl, & Shearin, 1987; McLeavey, Daly, Murray, O'Riordan, & Taylor, 1987). A comprehensive discussion of the issue in relation to the major cognitive models of depression is given by Parks and Hollon (1988). This highlights the distinction being made in recent research between episodic and vulnerability cognitive organisations, with the latter, although less isomorphic with the way diagnosable depressed patients think, thought to be less state dependent and to play a larger role in initial aetiology.

Seligman's model of depression, based on the phenomenon of learned helplessness, has generated considerable research interest. The model proposes that the belief that one's actions will be ineffectual may develop on the basis of continual exposure to non-contingent punishment. When partnered with a tendency to attribute such outcomes to personal, global or stable faults of character, the result is the decreased responding characteristic of depression (Abramson et al., 1978). The implication of the model is that the perceived inability to control environmental events generates a negative expectancy in coping with any new stressors. Therefore, in a stressful situation the depression-prone person may believe he/she has no appropriate responses to offer or is likely to give up even though appropriate coping strategies may be available. Support for Seligman's proposition is found in evidence of the existence of a distorted judgement of contingency in depressed subjects (e.g. Vazquez, 1987)

despite demonstration of the accuracy of their cognitions under some circumstances (Alloy & Abramson, 1979, 1982; Lewinsohn, Mischel, Chaplin, & Barton, 1980).

The application of this model to the occurrence of suicidal behaviour has some support. Reda (1975) speculates that suicidal individuals may often present in a state of learned helplessness which may be acquired as a result of exposure to a range of uncontrollable adverse life events. In support of Reda's clinical observations, a review of reports of the background and life history of suicide attempters reveals a fund of data detailing conditions conducive to the development of a state of learned helplessness. The suicidal individual is frequently exposed to a greater number of stressful and uncontrollable life events than non-suicidal individuals (Isherwood et al., 1982; Paykel, 1976; Slater & Depue, 1981), and to conditions of non-contingent negative reinforcement within family settings (Williams & Lyons, 1976).

However, data concerned with demonstrating the existence of cognitions associated with a state of learned helplessness in suicidal individuals is inconclusive. A parallel is sometimes drawn between the notion of learned helplessness and the concept of an external locus of control, with the latter frequently but inconsistently associated with suicidal behaviour (Lester, 1983, 1988). In recent studies concerned with the interpersonal problem solving skills of suicidal individuals, suicidal psychiatric patients reportedly rated their generated solutions as being both as potentially efficacious and as likely to be associated with positive consequences as

those of the non-suicidal control group (Schotte & Clum, 1987). Nonetheless, they were likely to implement fewer of the alternatives that they generated (Schotte & Clum, 1987), and expected suicide to solve problems more than did non-suicidal psychiatric patients and non-patient controls (Linehan et al., 1987). Therefore, while elements integral to the development of a state of learned helplessness are reported, operation of such a mechanism in relation to the occurrence of suicidal behaviour has yet to be demonstrated.

The potential significance of Beck's cognitive theory of depression in relation to suicidal behaviour is underlined by clinical studies (Beck et al., 1979) which have identified a number of cognitive distortions that set the suicidal individual apart from other patients. These include the tendency to overestimate the magnitude of problems, to show little confidence in one's own resources for problem solving, and as a result a tendency to view the future in negative terms. Suicidal individuals show "the cardinal features of the cognitive triad; an exaggerated view of the outside world, themselves and their future" (Beck et al., 1979, p. 222).

There has developed a considerable literature linking a negative view of the future at the time of the attempt, often referred to as a sense of hopelessness, with suicidal intent (Beck, 1967; Beck, Kovacs, & Weissman, 1975; Beck, Steer, Kovacs, & Garrison, 1985; Kovacs, Beck, & Weissman, 1975a; Minkoff, Bergman, Beck, & Beck, 1973). This relationship has been documented and replicated in a variety of clinical samples with both attempters (Beck et al., 1975; Dyer & Kreitman, 1984;

Minkoff et al., 1973) and threateners (Wetzel, 1976b), and cannot be accounted for simply as a result of any relationship between depression and suicide intent. Factor analysis of suicide attempters' responses to the Beck Depression Inventory by Beck and Lester (1973) revealed a relationship between suicidal wishes and negative expectancies. Responses to interpersonal problem solving tasks have indicated that suicide attempters tend to focus to a greater extent than control subjects on the potential negative side effects of implementation (Schotte & Clum, 1987).

A relationship between suicidal wishes and a negative view of self also has empirical support (Beck & Lester, 1973; Kaplan & Pokorny, 1976). Investigation of the attitudes of suicidal individuals has indicated that they have lower self appraisal, higher other appraisal and the greater divergency between these two assessments than either psychosomatic or normal hospitalised patients (Neuringer, 1974a, 1974b). Kaplan and Pokorny (1976) present data to indicate that the adoption of suicidal behaviour is a response to the experience of negative self-attitudes in the more recent past.

The process by which individuals achieve these cognitive distortions has until relatively recently received less attention than the cognitions themselves. An investigation of the prevalence of cognitive distortions in a sample of inpatient depressed and/or suicidal drug abusers, indicated that the degree of cognitive distortion as measured by the Cognitive Bias Questionnaire, was related to levels of depression, hopelessness, and

suicidality (Chabon & Robins, 1986). Similarly, in an assessment of an adult sample who met the Research Diagnostic Criteria for major unipolar depression, the lethality of current suicidal ideation was significantly predicted by the Selective Abstraction and Overgeneralization factors of Lefebvre's Cognitive Error Questionnaire, when the effects of the Beck Depression Inventory were partialled out (Prezant & Neimeyer, 1988).

In an interesting application of experimental cognitive psychology paradigms to a clinical condition, Williams and Broadbent (1986) have reported bias in the autobiographical memory of suicide attempters. Suicide attempters, who were required to retrieve specific personal memories to positive and negative cue words demonstrated delayed retrieval of positive memories rather than speeded retrieval of negative memories when compared with control groups. They also found it more difficult to be specific in their memories, particularly in relation to positive events.

Rush and Beck (1978) have suggested that suicidal wishes can be understood as an extreme expression of the desire to escape from what appear to be insoluble problems or unbearable situations. Some basis for the proposition that suicide attempters tend to view situations in this way is provided by the empirical findings so far reviewed. A significant impairment in problem-solving skill is a probable consequence of the cognitive characteristics described.

One example of the impaired application of positive problem solving resulting from the proposed "filtering" of environmental experiences would be an inability to recognise problem-solving options in the form of proffered social support. The enhanced salience of suicidal behaviour as the problem solving option of choice as a result of greater attention to maladaptive models, instructions and shaping procedures than more appropriate stimuli is also plausible. Acceptance by suicide attempters of suicidal behaviour as a legitimate problem solving strategy has been noted elsewhere (Linehan et al., 1987; Parker, 1981).

A role in the maintenance of suicidal behaviour is also indicated. It is proposed that characteristic perceptions would render the experience of any positive interpersonal consequences of suicidal behaviour time-limited, and repetition of suicidal behaviour would be required to renew the experience of positive consequences.

As mentioned earlier differences between suicidal and non-suicidal individuals on a range of cognitive variables beyond those associated with depression has considerable empirical support (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979). The suicidal individual has been distinguished from the non-suicidal by his/her value ratings on a number of concepts including life, death and suicide (Neuringer, 1968, 1979; Neuringer & Lettieri, 1971; Wetzell, 1975b). Rigidity of thought and a tendency to make absolute dichotomous evaluations, resulting in impaired problem solving have been characteristic (Neuringer, 1961, 1964, 1967, 1968, 1976).

More recent investigations, which have focused on cognitive problem solving within an interpersonal context, have described deficits in sequential, goal-directed thought related to real-life social problem situations (McLeavey et al., 1987) and lower active problem solving (Linehan et al., 1987). A more limited capacity to generate alternative solutions to personally relevant interpersonal problems (McLeavey et al., 1987; Schotte & Clum, 1987), a tendency to focus more than controls on the potential negative side effects of these solutions (Schotte & Clum, 1987), and a more limited ability to consider the consequences of an action before it is carried out (McLeavey et al., 1987), have been noted.

Comprehensive theoretical frameworks within which these findings may have significance are little developed. Several possibilities for further investigation include the role of covert conditioning and hypothetical constructs associated with cognitive restructuring therapies. Of particular interest is Ellis' rational emotive therapy and the irrational assumptions or distortions of reality considered to be at the root of most emotional disturbance (Ellis, 1970). Meichenbaum's (1977) discussion of psychopathology as a function of maladaptive or irrational self-talk, presumed to be the internalised instructions of others present during the individual's early development, is also relevant.

Several investigations have indicated that suicidal patients are more susceptible to the dysfunctional attitudes and irrational beliefs discussed by Ellis (Ellis, 1970) than non-suicidal psychiatric patients (Ellis & Ratliff, 1986; Ranieri et al., 1987). Dysfunctional attitudes toward love, approval, and achievement, perfectionism, a sense of entitlement, sensitivity to

social criticism, and a tendency to view state of mind as the inexorable consequence of stressful circumstances have all been reported on the Dysfunctional Attitude Scale and the Irrational Beliefs Test. Similarly, a role for the evaluation of irrational beliefs in relation to the prediction of suicidal behaviour has been noted by Bonner and Rich (1987).

The role of faulty self-instructions as a determinant of the behaviour of impulsive children has been discussed by Meichenbaum (Meichenbaum & Goodman, 1971), and may have a particular relevance for the impulsive suicide attempter. An interesting speculation is that the suicidal individual uses private speech in a less mature, less instrumental fashion than the non-suicidal individual, and consequently exhibits less verbal control over motor behaviour. Both the possibility of reduced control by the suicidal individual, and a preference for a physical rather than a verbal modality, have been recognised. Impulsive attempters have been reported to make ineffective use of verbal strategies (Katschnig & Steinert, 1975; Kirsch, 1979) and, of significance for the present investigation, have family or cultural backgrounds in which actions predominate over words (Kreitman, Smith, & Tan, 1970; McCulloch & Philip, 1972). Suicidal behaviour itself has been interpreted as a communicative act, and a manifestation of a lack of ability to communicate verbally (Graff & Mallin, 1967). Moreover, the conceptualisation of the suicide attempter as an undercontroller, who is prone to respond to frustration with self-aggression, has been raised by Lester and Wright (1973).

It is not difficult to conceive of several paths by which this irrational self-talk or the dysfunctional attitudes of Ellis (1970) could give rise to suicidal behaviour. It could be argued that such statements prohibit the visualisation of future satisfactions, and readily engender negative self-evaluations, a sense of hopelessness, and perhaps even inaccurate evaluations of attempted suicide as a problem solving strategy. Further, they may prevent the recognition or acceptance of available social support, or promote, in the attempter, behaviour which renders the proffering of social support unlikely.

To date the role of covert conditioning theories in relation to the development and maintenance of suicidal behaviour has received little consideration. Within a context of rigid thinking, poor problem solving, increased adverse life events, and limited social support, it is proposed that suicidal individuals may unwittingly covertly rehearse suicidal ideation as a coping strategy. It is clear from the work of Cautela (Cautela & Kearney, 1986) that the pairing of positive and negative thoughts with certain behaviours influences the likelihood of occurrence of those behaviours.

Several writers note that thoughts of suicide may provide a temporary relief from unpleasant emotional states (Diekstra, 1987; Litman & Tabachnik, 1968), and that a suicidal plan may become elaborated upon and reinforced by repetition both within the imagination and by verbal extension (Litman & Tabachnik, 1968). Wilmotte and Fontaine (1982) suggest that in some cases the repetition of suicidal ideas can "constitute

in the long term a hidden desensitization, with the patient accepting the possibility of suicide more and more easily and therefore its actualization more nonchalantly" (p. 90). However, as yet little empirical data in support of these speculations is available.

The cognitive approaches so far reviewed may be considered extensions and clinically relevant applications of social learning theory (Hall & Lindzey, 1978). This theoretical approach suggests that behaviour may be explained in terms of a reciprocal interaction between personal and environmental determinants. One element of the theory, Bandura's work on the role of a modelling factor in the acquisition of behaviour, was considered in an earlier part of this chapter. In recent years Bandura's (1978, 1982) work on social learning theory has increasingly emphasised the role of cognitive factors and delineation of the concept of self-efficacy, a related but more global conceptualisation than those proposed by Ellis (1970), Meichenbaum (1977), and other cognitive theorists (Abramson et al., 1978; Beck et al., 1979).

Self-efficacy judgements relate to the subjective estimate that one has the ability to cope successfully with a threatening situation and are distinguished from expectations of the ability to control outcomes or reinforcers. It is proposed that they are based on four major sources of information: performance accomplishments, vicarious experience, physiological arousal, and verbal persuasion. They are considered to play a major role in the initiation, generalisation and maintenance of coping behaviour and Bandura proposes that different behaviour therapy

techniques are effective because they increase expectations of personal efficacy (Bandura, 1978). Indeed, there is some empirical evidence to suggest that this is so (Bandura, Adams, & Beyer, 1977; Hall & Lindzey, 1978).

It may be argued, therefore, that this conceptualisation more comprehensively addresses the data base in relation to suicidal behaviour. The poor social problem solving behaviour (Linehan et al., 1987; McLeavey et al., 1987; Schotte & Clum, 1987), the sense of hopelessness (Beck, 1967; Beck et al., 1975; Minkoff et al., 1973) and the cognitive style (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979) demonstrated by the suicide attempter may be understood in terms of low self-efficacy expectations. Further, documented features of the suicidal individual's environment, such as high recent life event stress (Isherwood et al., 1982; Paykel, 1976; Slater & Depue, 1981) and dysfunctional patterns of social interaction (Bhagat, 1976; Fawcett et al., 1969; Rosenbaum & Richman, 1970; Williams & Lyons, 1976), would promote poor efficacy expectations. For example, the suicide attempter is frequently exposed to non-contingent negative reinforcement in family relationships (Williams & Lyons, 1976) and to a process of progressive social isolation (Jacobs, 1980).

2.5 Summary

This review has attempted to demonstrate the increasing interpersonal context of theoretical approaches to suicidal behaviour. Psychodynamic

approaches continue to take a primarily intrapsychic focus but an acknowledgement of environmental and social triggers, and of the interpersonal function of suicidal behaviour has emerged. However few testable hypotheses have been generated. The sociological tradition, with theoretical constructs firmly located in the social world, has demonstrated little predictive value for the individual case, and does not detail the mechanisms by which social structures may act upon the individual.

It has been argued that a behavioural and cognitive-behavioural approach more closely meets these requirements. A mechanism of learned avoidance may operate in response to a dysfunctional social environment, which introduces suicidal behaviour as an appropriate response via modelling and operant mechanisms. Cognitive factors mediate between the social environment and the suicidal response, allowing individual responses within a similar environment, and are themselves shaped by environmental conditions.

No single behavioural or cognitive-behavioural mechanism provides a comprehensive explanation of the development and maintenance of suicidal behaviour. Rather, each may represent one element in the process of development, or conceivably have specific relevance for subtypes within the suicidal population.

The range of social contexts associated with the occurrence of suicidal behaviour, and within which these behavioural and cognitive behavioural mechanisms develop and operate, will be reviewed in the next chapter.

Interpersonal deficits and dysfunction, both early in life and concurrent with suicidal behaviour, have received considerable research attention as have the interpersonal consequences of suicidal behaviour.

Chapter 3

Social Network, Social Support and Attempted Suicide

3.1 Introduction

Recognition of a relationship between an impoverished or a dysfunctional social environment and suicidal behaviour has a long history, and the immediate social environment of the suicidal individual has attracted much research attention. These studies have not been derived from theory but rather have attempted to describe the suicidal individual's social relationships, and as a result a wide range of concepts and levels of methodological sophistication have been demonstrated.

While social isolation may be a predisposing factor more typical of completed suicide (Pokorny, 1968; Trout, 1980), both physical and emotional isolation have been related to attempted suicide (Bille-Brahe & Wang, 1985; Jacobs & Teicher, 1967; Politano, 1978; Rosenbaum & Richman, 1970; Stengel, 1969a). The occurrence of attempted suicide has also been variously attributed to an ongoing disturbance in familial (Richman, 1968, 1978; Richman & Rosenbaum, 1970; Rosenbaum & Richman, 1970; Topol & Reznikoff, 1982) and other close relationships (Bhagat, 1976; Fawcett, Leff, & Bunney, 1969; Hattem, 1964), to the lasting effects of early childhood losses (Adam, Boukoms et al, 1982; Adam, Lohrenz et al., 1982; Goldney, 1981; Yesavage & Widrow, 1985), or to a range of more immediate interpersonal precipitants (Bancroft, Skrimshire, Casson, Harvard-Watts, & Reynolds, 1977; Fieldsend & Lowenstein, 1981). Often the distinction in the literature between the impairment and the absence of relationships is obscure.

Notwithstanding this range of research interest, two themes have been popular. The first regards deficits in interpersonal relationships as a precursor of the behaviour, one of a set of predisposing factors or as a precipitant of the act. The second suggests that interpersonal relationship change may occur as a consequence of the act. This review seeks to illustrate the range of conceptualisations of the attempter's interpersonal environment within the framework of these two themes.

3.2 Precursors of Suicidal Behaviour

3.2.1 Deficits During Childhood and Later Attempted Suicide

Dysfunctional early experiences, in the form of family disorganisation, parental deprivation, or punishment experiences, have been frequently although not invariably associated with attempted suicide in later life (Goldney, 1981; Lester, 1972, 1983). Reviews (Goldney, 1981; Lester, 1972, 1983) of research undertaken in the sixties and seventies concluded that an association between early parental deprivation and suicidal behaviour was found moderately more frequently than not. The broad range of criteria by which the former had been defined was considered to contribute to the inconsistency of findings.

A proposed role for the experience of early loss, on the basis of these early findings, was that it served to sensitise an individual to later loss (Bruhn, 1962). Support for this proposition has been mixed, with reports of an excess of both early and recent loss in the life histories of suicide

attempters, but inconsistent findings regarding the interaction between these two types of loss (Lester & Beck, 1976; Stein, Levy, & Glasberg, 1974). Examples of more recent studies concerned with this issue have continued to provide evidence of the importance of early deprivation. However, greater emphasis is placed on the significance for later suicidal behaviour of ongoing family instability following early parental loss rather than the loss per se (Adam, Boukoms et al., 1982; Adam, Lohrenz et al., 1982; Goldney, 1981).

Some evidence of a relationship between parental rearing patterns and later suicidal thought is also available. Self-destructive acts by inpatient males with major affective disorders were related by Yesavage and Widrow (1985) to certain measures of childhood deprivation, such as severe childhood discipline and parental conflict. Administration of a measure of family rearing patterns, the EPQ, and two questions tapping suicidal thoughts to a non-clinical sample indicated that those with suicidal thoughts had parents who had separated more often, favoured other siblings, and were unstimulating, guilt-engendering, rejecting and unaffectionate (Ross, Clayer, & Campbell, 1983). Recollection of discipline experiences in a similar non-clinical sample revealed no associations between suicidal tendencies and experiences, but this study by Lester (1968) employed a smaller sample confined to university students and a narrower definition of child rearing practices, concerned primarily with various forms of punishment.

Speculation on the basis of such findings has suggested, in much the same manner as earlier writers (Frederick & Resnik, 1971), that individuals who abuse themselves are repeating upon themselves the abusive behaviour they came to know as a child (Yesavage & Widrow, 1985). Henry and Short's (1954) theory, reviewed in the previous chapter, although concerned with completed rather than attempted suicide, and with a very different theoretical framework, also highlighted the notion of the learning of self-directed aggression based on early rearing experiences.

The effect of such early experiences on the development of the adult attempter's social environment has been largely unexplored. However, it has been suggested that inappropriate child-rearing practices might render defective basic personality variables such as the sense of competence and with it the individual's ability to develop satisfying interpersonal relationships as an adult (Farber, 1977). Stengel (1969a) also proposes that chronic social isolation may be one of the consequences of dysfunctional early childhood experiences in his statement that:

The lack of a secure relationship to a parent figure in childhood may have lasting consequences for a person's ability to establish relationships with other people. Such individuals are likely to find themselves socially isolated in adult life, and social isolation is one of the most important factors in the causation of suicidal acts.

(p. 55)

3.2.2 Chronic Social Isolation

Many of the indices of social isolation employed by research concerned with the relationship between suicidal behaviour and interpersonal environment have been unidimensional and, therefore, have not greatly furthered insight into the development of a behaviour with the complexity of attempted suicide (Jacobs & Teicher, 1967). However, data derived from the relatively crude indices provided by sociological variables such as marital status (Humphrey, Niswander, & Casey, 1971; Schmid & Van Arsdol, 1955; Shneidman & Farberow, 1965) and residential mobility (Humphrey et al., 1971), and factors such as home-sharing (Barter, Shwaback, & Todd, 1968) and social participation (Barter et al., 1968; Nelson, Nielsen, & Checketts, 1977) are consistent with a link between social isolation and suicidal behaviour.

More complex aggregate indices of social isolation present similar results. A positive relationship between suicidal risk and social isolation for female attempters was indicated by archival data on callers to a suicide prevention service, where the measure of social isolation was based on a combination of variables such as marital status, claiming a significant other, and expressed relationship to a significant other (Politano, 1978). A randomly chosen sample of suicide attempters interviewed by Bille-Brahe and Wang (1985) were considered to be less socially integrated than data from general population samples would suggest to be the norm, on the basis of data on home sharing, contacts with family, friends, neighbours, and on occupational and social activity in

the community at large. Indeed a great many of the sample were without any form of personal contact. An association between attempted suicide and similarly defined social participation variables, such as living arrangements, and club membership in a hospitalised psychiatric sample was reported by Fergusen (1975).

However, these indices do not indicate how individuals perceive their isolation or whether it is achieved by choice or circumstance. Further, it is not clear what it is about being unmarried, residentially mobile, or engaging limited social involvement that is suicidogenic. While a preference for less social involvement has been noted in comparisons of attempted suicides with non-suicidal psychiatric patients (Nelson et al., 1977) and suicide threateners (Humphrey et al., 1971), attempts to further specify the social environment of the suicidal individual are few.

A number of isolated attempts do go beyond the examination of these relatively crude sociological variables. In an assessment of suicidally preoccupied presenters at a psychiatric clinic by Ganzler (1967) for example, reported current and anticipated social isolation distinguished the suicidal group from both disturbed and non disturbed controls. Estimated frequency of social contact and satisfaction with the number and kinds of people known in a variety of interpersonal areas was found to distinguish both disturbed and suicidal presenters from well adjusted controls. However, suicidal subjects were not significantly less social or less satisfied than the disturbed controls, nor did they differ significantly from any of the controls in relation to whether isolation or affiliation was sought when lonely.

In evaluating Ganzler's (1967) findings, it should be noted that the suicidal group was mixed, composed of both threateners and attempters. Further, although both disturbed and well-adjusted control groups were included, matching on relevant variables such as age, education and social class proved difficult. Subjects were assessed shortly after presentation with unpublished scales concerned, but not always clearly so, with aspects of the social environment. Although a range of questionnaires were administered, conclusions in relation to social isolation were based principally upon responses to a series of bipolar adjective rating scales concerned with the concepts of the individual's life at present and as anticipated in the future. Frequency of social contact was derived from a measure of the frequency with which the individual engaged in various kinds of social activity. Further, these scales were generally not accompanied by the psychometric data by which their validity might be assessed.

An investigation with interest in the availability of more specific relationships is reported by Lester (1969). In a study which asked students to nominate the significant other sources of help available in relation to a range of investigator determined life crises (Situation Resources Repertory Test), Lester (1969) found that although the suicide attempters and controls did not differ in the total number of help-seeking occasions recorded, the suicidal and disturbed non-suicidal students nominated fewer people than the well-adjusted students. The suicidal individuals tended to have fewer people to turn to in worrisome situations than in less worrisome situations, while the opposite was true of non-

suicidal individuals regardless of degree of disturbance. However, Lester's results were preliminary only. The sample was very small, and comprised a non-clinical population, undergraduates who had either considered or attempted suicide at some time in the past, where disturbance was determined by the neuroticism scale of the MPI.

3.2.3 Impaired Relationships

The role of chronically impaired interpersonal relationships in the occurrence of suicidal behaviour has been documented across all age groups, involving both the family of origin and other interpersonal relationships. The qualitative deficits of greatest significance cannot be readily determined from a reading of this literature for impairment has been operationalised in numerous ways and with varying degrees of precision.

An almost universal pattern of family involvement in the pressures that initiated the suicidal act was detailed by Rosenbaum and Richman (1972) on the basis of retrospective clinical interviews with suicide attempters and their relatives. A control group study involving adult presenters revealed that suicide attempters were more often aware that their families were fed up with them, considered them a burden, and believed that they would be better off if the subjects killed themselves, despite no differences in the number of recent disagreements with others (Rosenbaum & Richman, 1970). Subsequent self-harm by adult psychiatric referrals was significantly predicted, in a 4-year case record

follow-up study, by the patient's perception of his/her family as making life worthwhile (Myers, 1982). Further, Humphrey (Humphrey et al., 1971) noted that attempters had weaker family ties, with relatives in whom they were less able to confide, and more arguments with friends than threateners.

The link between adolescent suicidal behaviour and ongoing family stress from external sources such as financial hardship or internal sources such as parental anger or conflict has been often discussed (Forrest, 1988; Gispert, Wheeler, Marsh, & Davis, 1985; Neiger & Hopkins, 1988; Schrut, 1968; Wright, 1985), but control group studies are few (Wright, 1985). Suicidal adolescents have been reported to see themselves as having a greater number of serious family and peer problems, as defined by the Mooney Problem Check List, than psychiatric and non-patient controls (Topol & Reznikoff, 1982). Further, both they and their parents have rated the time spent with family members as significantly less enjoyable than non-suicidal emergency room presenters and their parents, with attempters reporting significantly greater parental pressure to do well in school, while their parents rate their partner's parenting skills less favourably (McKenry et al., 1982). However, the degree to which the measures employed in this latter study reflect personality variables rather than the attempter's interpersonal relationships is unclear.

The perception of low family support as measured by the Family Environment Scale (Asarnow & Carlson, 1988) and the poorly defined

concept of lack of warmth demonstrated by family relationships (Taylor & Stansfeld, 1984) have been reported to distinguish child and adolescent attempters from psychiatric controls. Significantly Lester (1969) has presented data to suggest that suicidal students may resent those to whom they could turn for help significantly more than non-suicidal individuals and may show more ambivalence towards significant others.

The role of rejection by family and significant others in the occurrence of suicidal behaviour has been a consistent finding of clinical control group studies of adolescent attempters (Corder, Shorr, & Corder, 1974; Jacobs, 1980; McKenry et al., 1982). However, this has been inferred from social history data (Corder et al., 1974; Jacobs, 1980) or based upon attempter-ratings of perceived parental interest in them (McKenry et al., 1982). A history of chaotic and excessively mobile family life, minimal communication over difficulties, and repeated rejection experiences has been documented by Schrut (1968). Sabbath (1969), again using case history data, describes the "expendable child". Considered by his/her parents as a threat to their well-being, and in turn perceiving the parents as persecutors or oppressors with a desire to be rid of him/her, the child responds with suicidal behaviour.

A long-standing poor relationship with spouse or significant other has been consistently reported in relation to adult attempters (e.g. Fawcett et al., 1969; Mitchell & Lawson, 1974; Stephens, 1985). However, this conclusion has often been drawn without the benefit of non-suicidal control group comparison (e.g. Mitchell & Lawson, 1974; Stephens,

1985), in studies which have failed to sufficiently define marital disharmony or relationship disturbance (Mitchell & Lawson, 1974), or which, although outlining criteria of disturbance, have placed considerable reliance on investigator interpretation of the data base (Fawcett et al., 1969; Stephens, 1985).

Rejection by one's spouse is the reason often given by the attempter for the occurrence of suicidal behaviour (Hattem, 1964), and Kumler (1964), although discussing a small sample in the absence of a control group, noted that a history of rejections by the spouse characterised the relationship. Further, a comparison on the Thematic Aperception Test of attempted suicide and assaultive female prisoners by Inman (1977) found that the suicide attempters gave more themes of rejection by loved ones and saw the environment as more controlling.

A comparison of completed, attempted and threatened suicides by Fawcett (Fawcett et al., 1969), concluded that marital relationships were characterised by their hostility, the attempter's inability to communicate or negotiate his/her needs, and the spouse's lack of warmth, isolation from attempter and denial of difficulties. Direct observation of the communication and interaction patterns specified rather than recourse to records of interview or attempter or therapist recall would have been a valuable addition to this study. Inference of disturbed marital relationships has also been drawn from reports of the significant other's failure to respond despite understanding of the attempters protracted communications of suicidal intent prior to the act (Wolk-Wasserman,

1986). A similar interpretation has been placed upon reports of spouse assisted suicide, in which wives' ambivalent desires for their husbands' deaths, caused them to fail to recognise suicidal communications or to initiate life-saving action in time (Miller, 1979).

Reflecting a somewhat more empirical approach, Bhagat (1976) reported the attempter's marital relationship to be one with long-term problems in communication, trust, power-sharing, the expression of hostility, and the expectation that one will be understood unfavourably, on the basis of control group comparisons of responses to a relationship questionnaire designed specifically for his study. A range of more established questionnaires concerned with perceptions of interpersonal behaviour of self and spouse revealed a relationship described by Hattem (1964) as submissive-exploitive, with the attempter masochistic, critical and intolerant of others, and the attempter's partner, narcissistic and competitive. However, the study did not include a non-suicidal control group of couples.

The role of faulty and disruptive communication in the development and maintenance of suicidal behaviours has been emphasised in a number of control group studies. The quality of interpersonal communication between spouses was found to significantly deteriorate across groups as the degree of suicidal behaviour in one partner increased (Bhagat, 1976; Bonnar & McGee 1977; Shagoury, 1972). More generally, the existence of a communication disturbance in the suicide attempter's family, particularly in relation to the communication of aggression, is proposed by Richman (1968). He observes that the attempter is often the recipient

of anger but is not permitted to express anger in return, nor communicate with or confide in others. Attempts to analyse communication patterns within the families of suicide attempters using objectively scored family tasks as measures of communication and coalition have revealed a reduced exchange of self revealing information and less responsiveness to others needs, when compared with non-suicidal families (Williams & Lyons, 1976). These findings have been replicated in a similar study by Abraham (1978).

Further description of the relationship between social environment and suicidal behaviour is presented in Pfeffer's (1982) discussion of childhood suicidal behaviour as a symptom that evolves within the context of chronically dysfunctional family system, and which requires a family treatment approach. On the basis of clinical observation, Pfeffer (1981) describes this system as one which demonstrates a lack of generational boundaries, severely conflicted spouse relationships, parental feelings projected onto the child, symbiotic parent-child relationships, and marked inflexibility. In such families progress in the child's individuation and autonomy is hampered, and she argues, suicidal behaviour may be an acted-out last resort mechanism to remove from consciousness the child's negative self-perceptions. Similarly, the family of the attempter has been viewed as a closed system which tries to prevent the potentially suicidal member from making outside contacts (Rosenbaum & Richman, 1970), and suicidal behaviour becomes part of a family drama in which the suicide attempter either controls the action or is required to stabilise a pathological family system (Frances & Clarkin, 1985; Richman, 1968).

It is, therefore, apparent that the interpersonal difficulties of the suicidal individual may take a variety of forms, and that, to date, there has been little consistency in definition or manner of assessment.

3.3 Precipitants of Suicidal Behaviour

In further emphasis of the interpersonal context of suicidal behaviour, conflict with a family member or other significant person has long been cited as a precipitant of attempted suicide in surveys of presenters across a range of cultures (e.g. Daradkeh & Al-Zayer, 1988; Edwards et al., 1981; Lukianowicz, 1973; Orr, 1985; Rubenstein et al., 1958; Schrut, 1968). The attempt often follows the loss or threatened loss of an important current relationship (Adam, Boukoms, & Scarr, 1980; Wasserman, 1988) or a major quarrel in the setting of chronic relationship difficulties (Fieldsend & Lowenstein, 1981; Rosenbaum & Richman, 1972; Schrut, 1968).

A clinical study of consecutive admissions to an intensive care unit following a suicide attempt indicated that actual or threatened separation, often in the month prior to the attempt, together with minor situations in which the attempter felt he/she had been rebuffed by significant others, played an important role in precipitating the attempt (Wolk-Wasserman, 1987). In support of these findings a related investigation found the principal factor distinguishing suicide attempters from non-attempters presenting to a psychiatric institution to be the higher incidence among attempters of separation from partners during the preceding twelve

months (Wasserman, 1988). However, the latter findings, derived from a register-based epidemiological study relying on therapist knowledge of each patient, are, as the authors acknowledge, limited.

Self-poisoning patients and their significant others interviewed on admission by Fieldsend and Lowenstein (1981), reported events involving a key person, especially quarrels, to be common in the two days preceding the overdose. In some 65% of the attempts examined by Bancroft (Bancroft et al., 1977) key events in precipitating the attempt occurred during this time period, and quarrels accounted for 40% of events in female attempters. The possibility that these findings have been distorted due to the attempter's emotional reactions to the circumstances of the attempt cannot be excluded, particularly where very open-ended questioning has been employed (Bancroft et al., 1977).

The reported relationship between interpersonal precipitants and suicidal behaviour has suggested to a number of writers that the behaviour may represent a common way of coping with or expressing hostility. Bancroft (Bancroft et al., 1977) suggests that this may be particularly true of attempts by women, whom he believes may have more limited avenues for its expression. A similar meaning has been ascribed to attempted suicide by the young attempter (Parker, 1981). Further, there is some data to suggest that these precipitants may have particular relevance for individuals with a background of marital disturbance, who are not notably depressed, and whose attempts have been defined as operant, alienated, extrapunitive, Janus-faced, and low in life endangerment (Edwards et al., 1981).

3.4 Social Sequelae of Suicidal Behaviour

The powerful impact of suicidal behaviour has been demonstrated in controlled settings (Cowgell, 1977). The presentation of taped suicidal threats was found to produce greater self rated anxiety (measured on the Lorr McNair Mood Scales) and greater physiological arousal (peripheral vasoconstriction) in the perceiver, and an increased likelihood of the subject talking to the stimulus person about death, or dying, than messages with non-suicidal content.

The first systematic investigation of the effects of suicidal behaviour in a clinical population took the form of a comprehensive 3-6 year follow-up by Stengel and Cook (1958) in which both attempters and their significant others were interviewed. A detailed list of potential interpersonal changes were examined and several changes typically brought about by the suicide attempt were documented. These included temporary hospitalisation and treatment, removal from the scene of conflict, mobilisation of psychological and material help, changes in human relationships and modes of life, and permanent hospitalisation where necessary.

The immediate treatment related sequelae of attempted suicide (Lukianowicz, 1972, 1973, 1974, 1975; Rubenstein et al., 1958; Stengel & Cook, 1958) have emphasised the function served by suicidal behaviour in removing the attempter from a stressful situation (Katschnig & Steinert, 1975; Lukianowicz, 1972, 1973, 1974, 1975). Interpersonal

responses, including the concern demonstrated by medical staff (Rubenstein et al., 1958) and the attempter's most significant others (Williams & Hanson, 1976), and unspecified attitude changes in persons with whom the attempter has been engaged in a struggle (Rubenstein et al., 1958) have formed the basis of many general clinical impressions. More structured rating scale data, reporting not only the significant other's spontaneous comments, but their rating of feelings regarding the attempt has revealed that the attempt often evokes sympathy and causes significant others to feel considerable guilt and anger (James & Hawton, 1985). However, it is not clear how soon after the attempt these assessments were made.

Longer term follow-up studies have covered periods ranging from two months (Williams & Hanson, 1976) to between five and ten years (Retterstol, 1974). Significant change in housing and working conditions, in the degree of social function, and in the attitudes of the attempter or significant other, have been recorded (Lukianowicz 1972, 1973, 1974, 1975; Retterstol, 1974; Rubenstein et al., 1958; Williams & Hanson, 1976). The latter often is manifest as the occurrence of divorce, reconciliation, or maintenance of a threatened relationship, but unfortunately is often not specified.

A number of studies have also asked the attempter to rate whether they considered their social situation to have improved over the follow-up period. At a six month follow-up by Rygnestad (1982) between 50% and 60% of attempters considered that their social situation had generally

improved, but the basis of this assessment was not detailed. The problems precipitating the attempt, often conflict with boyfriend, parents, or at school, were rated as having shown considerable general improvement by both an independent rater and two thirds of the sample of adolescent attempters followed-up by Hawton (Hawton, O'Grady, Osborn, & Cole, 1982). In one of the few follow-up studies to employ a control group, an 18-24 month follow-up of a Christchurch sample, attempters reported greater and more clearly positive interpersonal and familial changes than general practice controls (Adam et al., 1983). Specifically, fewer attempters were having disagreements than initially, reconciliations and a change in available relationships were noted, and on a 3-point rating scale of improvement attempters reported greater change in the quality of relationships.

Generally in these studies interviews with the attempter have been supplemented by examination of case records (Retterstol, 1974; Rubenstein et al., 1958), interviews with the attempter's most significant other (James & Hawton, 1985; Rubenstein et al., 1958; Williams & Hanson, 1976), or assessments of an independent rater (Hawton, O'Grady et al., 1982). However some studies have relied only on interviews with the attempter (Adam et al., 1983; Rygnestad, 1982), or have not specified the source of data (Lukianowicz, 1972, 1973, 1974, 1975).

It is clear from this review that neither the factors which might determine the occurrence of interpersonal gain nor its duration have been identified

with certainty. It has been noted that the element of interpersonal gain was less apparent where attempters were found to have genuine psychiatric disorder or serious personality disorder (Lukianowicz, 1975), and that a poor psychosocial outcome was associated with a history of social isolation (Greer & Lee, 1967) and more serious attempts (Angle, O'Brien, & McIntire, 1983; Greer & Lee, 1967). Little relationship between the immediate responses of significant others and the reasons to which they attributed the attempt was found by James and Hawton (1985), although the amount of anger they expressed did show a weak positive correlation to the self-poisoner's degree of suicidal intent.

Failure to achieve some change in the degree of social isolation (Burke, 1976; Kreitman & Casey, 1988; Wang, Nielsen, Bille-Brahe, Hansen, & Kolmos, 1985) or level of interpersonal conflict (Kiev, 1974; Sifneos, 1966; Stengel, 1969a) is commonly considered to be an element in the repetition of suicidal behaviour, as is failure to maintain suicide related interpersonal gains (Kiev, 1974; Sifneos, 1966; Stengel, 1969a). The transient nature of the interpersonal gains from suicidal behaviour has been frequently observed (Katschnig & Steinert, 1975; Kessel & McCulloch, 1966; Rubenstein et al., 1958; Sifneos, 1966).

The frequency with which the attempter has been noted to express the desire to effect some interpersonal change via suicidal behaviour (Lukianowicz 1972, 1973, 1974, 1975; Rygnestad, 1982; Sifneos, 1966; Williams & Hanson, 1976), and the correlation between loss of interpersonal gains and repetition of suicidal behaviour, have contributed to consideration of suicidal behaviour as an attempt to manipulate the

social environment of the attempter. As noted in the previous chapter, suicidal behaviour has often been conceptualised as a communicative act, a means of conveying distress, a need for support and assistance, or a desire for significant others to change their attitudes and behaviour towards the communicator, rather than simply a means of achieving death (Goldberg & Mudd, 1968; Murphy & Robins, 1968; Rubenstein et al, 1958; Stengel, 1969a). These propositions have a more general parallel in McKinlay's (1973) discussion of the role of family and its kin and friendship networks in determining the type and extent of one's help-seeking behaviour in relation to health and welfare services. Further, the perception of suicidal motives as social constructions learned and shared with others rendering suicidal behaviour a socially relevant and understood act has been proposed by Stephens (1984).

The occurrence but at times transient nature of interpersonal gains, together with the perception of suicidal behaviour as a help-seeking behaviour has given rise to the proposition that contingent interpersonal manipulations following suicidal behaviour in many instances reinforce and maintain this particular behaviour (Bostock & Williams 1974). Sifneos (1966) concluded that, "Patients who manipulate, effectively or otherwise, are prone to make future suicide attempts because they seem to discover the power that suicide commands as a social weapon in social manoeuvres..." (p. 533).

This review suggests that it is also important to consider the interpersonal context of attempted suicide in terms of its consequences.

3.5 Current Issues in Relation to this Literature

This review has illustrated that a variety of treatments have been given to the interpersonal context of suicidal behaviour. A link between the occurrence of attempted suicide and both the impairment and absence of relationships with family, significant others and more general interpersonal contacts, has been indicated by clinical and research studies. Many of these interpersonal difficulties may occur during the early development of the individual with implications for later suicidal behaviour. There is also evidence of their closer temporal relationship with the act, as chronic and current interpersonal precursors or more immediate precipitants of the attempt. The interpersonal sequelae of the act may also have consequences for the occurrence of the behaviour.

Despite the consistency of the literature in reporting a link between the social environment and the occurrence of attempted suicide, details of the mechanisms by which they are related remain elusive. Two general areas of difficulty contribute to this situation. The first, to be considered in subsequent chapters, concerns the heterogeneity of the subject population and the nature of suicidal behaviour, a discrete and relatively rare behaviour. The second, as illustrated by this review, concerns the considerable variation in the conceptualisations in the interpersonal environment of the attempter and the sophistication of the empirical work undertaken to date.

Definition of concepts relating to features of the attempter's social environment have lacked uniformity and precision. Direct observation has been little used, with data often derived from secondary sources of unknown accuracy. The susceptibility of interview data to varying degrees of experimenter bias or subject distortion of recall and report, and poor documentation of the psychometrics of the questionnaires where they have been employed, are issues in many of the investigations reviewed. Although control group studies are increasingly reported, reliance on retrospective case analysis still commonly occurs. Varying periods of follow-up of attempters have been recorded, but generally contact with the attempter is not maintained over this period, and it is likely that many qualitative changes are overlooked.

These difficulties notwithstanding, interest in the area has continued. Lester (1972), although recognising that suicidal behaviour is partially determined by the individual's personality, has pointed out that it is extremely rare in all kinds of people, and added that "It seems likely that the clues as to why people kill themselves, will ultimately be found in the social psychological environment of the individual" (p. 186).

It is proposed that many of the diverse features of the attempter's social environment outlined in this review may be encompassed by the concept of social support deficits. The concept of social support has not yet acquired a consensual definition but serves as a general rubric under which a host of more specific definitions may be found (e.g. Cohen & McKay, 1984; House & Kahan, 1985). As House and Kahan (1985) have indicated

Social support is sometimes defined conceptually or operationally in terms of the existence or quantity of social relationships in general, or of a particular type such as marriage, friendship, or organizational membership. Social support is also sometime defined and measured in terms of the structure of a person's social relationships. In addition, social support is sometimes defined in terms of the functional content of relationships, such as the degree to which the relationships involve flows of affect or emotional concern, instrumental or tangible aid, information, and the like. (pp. 84-85)

In recent years the conceptual and methodological base of this literature has been subject to more critical examination and has given rise to considerable debate (e.g. Barrera & Ainlay, 1983; Cohen & McKay, 1984; Thoits, 1982; Veiel, 1985). The term social support has more clearly come to represent the functional content of relationships as distinct from the structural aspects of the interpersonal environment which are more commonly known as elements of the social network (e.g. Barrera & Ainlay, 1983; House, Umberson, & Landis, 1988; Mitchell & Trickett, 1980; Moos & Mitchell, 1982). However, the present investigation is less concerned with the complexities of this debate than with the empirical measures of social support which have emerged from the literature as a result, and which, it is argued, may be profitably applied to an examination of the interpersonal context of attempted suicide. From among the more promising instruments (Veiel, 1985) the Interview Schedule for Social Interaction (ISSI) was, therefore, selected in order to

address issues such as those raised by suicide research of variable quality in the past.

Although disruptions in social support have been repeatedly linked to a range of psychopathologies (e.g. Brown & Harris, 1978; Caplan, 1974; Cassel, 1976; Cobb, 1976; Cohen & Wills, 1985; Henderson et al., 1981; Miller & Ingham, 1976), methodological developments in the social support literature have not been readily applied to suicidal behaviour. An early example of the application of standardised assessment of social support to a suicidal sample is provided by Hart and Williams (1983).

Chapter 4

A Comparison of the Social Support available to Suicide Attempters and Matched Non-suicidal Individuals

4.1 Introduction and Hypotheses

In contrast to previous investigations, this study proposed a controlled examination of social support variables in relation to suicidal behaviour. More direct methods, and quantitative and established measures of social support were employed in a comparison with a matched non-suicidal control group. Contact with suicide attempters was initiated at the time of the act and maintained over the following six week period.

A number of specific hypotheses were proposed.

- (i) If social support deficits are a precursor of suicidal behaviour, then the suicidal group should report more limited social support than non-suicidal controls at the time of the attempt and a greater wish to die.
- (ii) If social support deficits are a precursor of suicidal behaviour, then the suicidal group should report that available support is less adequate/satisfying at the time of the attempt than the non-suicidal control group.
- (iii) If suicidal behaviour is capable of modifying the individual's environment in a positive manner, then the availability and adequacy of social support for the suicidal group might improve subsequent to the attempt while that of the non-suicidal group should remain unchanged.

4.2 Method

4.2.1 Design

A 2-group repeated measures design was employed, with between and within group comparisons being made on six indices of social support and one measure of the strength of the wish to die.

4.2.2 Subjects

The experimental subject was defined as an individual who attended or was admitted to the casualty section of a city general hospital as the result of suicidal behaviour. This hospital was the principal centre for referral of suicide attempters in the southern half of the state in which the investigation was undertaken.

Criteria for inclusion in the study were:

- (i) greater than 12 years of age (71 children were excluded from consideration);
- (ii) not an accident (12 overdoses appeared to be accidental);
- (iii) surviving the act (11 individuals did not survive the attempt);
- (iv) not previously contacted in the study (3 presented through casualty for a second time during the investigation);
- (v) not psychotic (8 attempters received an initial diagnosis of "psychosis"); and
- (vi) not significantly intellectually handicapped i.e. $IQ < 70$ (1 presenter was so handicapped).

Data collection took place over a period of 17 months (19/7/81 - 1/2/83). A continuous record of all presentations at the casualty section of a city general hospital was kept, and as near as possible study of a consecutive series was attempted. Appropriate casualty presentations of suicide attempters during this time numbered 274. Of these, 166 could not be contacted, but 108 (39.4%) were approached for participation in the study with 87 subjects completing an initial interview; 11 refused to participate, and 10 were considered inappropriate (i.e. the study would be unduly stressful) by relevant medical staff.

Data on individuals not contacted by the investigator were not available for examination and in many cases, where, for example, an individual may have absconded from the casualty department prior to treatment, their presentation was inadequately recorded for research purposes.

The group of 87 attempters initially interviewed was predominantly female (58/87), not employed in the workforce (58/87), single or currently married (65/87), and drawn predominantly (75/87) from social classes 5-7. Classification of social class was based on the Australian scale by Congalton (1963) where category one referred to the highest and category seven the lowest social grouping. The mean age of the group was 29.51 years (SD=13.16). While the largest single group was comprised of first presenters (38/87), a greater proportion of the sample had made previous attempts (49/87). In slightly less than half of the sample (41/87) psychiatric disorders were diagnosed and slightly more than half (45/87) had some previous contact with psychiatric services.

Self-poisoning with pills was the principle method employed in the majority of attempts (71/87), with approximately half of the sample (44/87) making impulsive attempts, defined as less than 5 minutes premeditation. The mean index of life endangerment on a 15 point scale (See Demographic and Background Data Checklist in Appendix A), where a high score indicated low life endangerment was 8.15 (SD=2.54). In 54/87 cases the attempt was unlikely to have resulted in death if left untreated but 65/87 of the sample were admitted at least overnight following the attempt.

Complete social support data was available for 52 of the 87 subjects initially interviewed, and it is with these 52 subjects that this investigation is principally concerned. The limits upon the successful application of the procedures and analyses of traditional large group designs in relation to suicidal behaviour are well-recognised (Daitzman & Levin, 1977; Lester, 1972). Factors such as the brevity of treatment experienced by a significant proportion of suicide attempters, their subsequent residential mobility, and their desire to forget the incident as quickly as possible, have rendered tracing and assessment, and, therefore, the acquisition and maintenance of contact with representative or random samples of individuals who engage in suicidal behaviour, extremely difficult (Eastwood, Henderson, & Montgomery, 1972). However, in the present investigation, no significant differences between the 52 subjects on whom complete data was available and the 35 on whom it was not, were detected (See Table 1) in terms of demographic characteristics, psychiatric and suicidal history, details of the suicide attempt and subsequent treatment.

Table 1 - Comparison of Subjects who Completed Initial Interview with those who Completed Both Initial and Follow-up Interviews.

Variable	Interviews Completed		χ^2	df	p
	1 n=35	2 n=52			
Sex					
Female	24	34	0.006	1	NS
Employed in Workforce	9	20	1.010	1	NS
Marital Status					
Single	14	25			
Married	9	17			
Separated	3	4			
Divorced	8	6			
Widowed	1	0	3.817	4	NS
Social Class					
1	1	0			
2	1	2			
3	1	3			
4	4	4			
5	2	11			
6	13	21			
7	13	11	7.581	6	NS
First Attempt	15	23	0.009	1	NS
Hospitalised	26	39	0.031	1	NS
Self-Poisoning	30	41	0.280	1	NS
Untreated Outcome					
Death certain	7	6			
Probable	9	11			
Unlikely	16	23			
Impossible	3	12	3.755	3	NS

Impulsivity					
< 5 mins.	20	24			
< 1 hour	6	9			
< 1 day	3	4			
> 1 day	6	15	1.707	3	NS
Psychiatric Diagnosis					
Yes	16	25	6.336E-6	1	NS
Personality Disorder	6	12			
Drug/Alc. Abuse	3	6			
Anxiety Disorder	4	5			
Affective Disorder	3	2	1.403	3	NS
Psychiatric History	18	27	0.030	1	NS
1 Previous Contact	6	10			
2+ Previous Contacts	12	17	0.004	1	NS
			t	df	p
Mean Age	32.03 (14.42)	27.81 (12.09)	1.48	85	NS
Mean Inpatient Duration	7.73 (9.60)	10.13 (10.89)	-0.91	63	NS
Mean Index of Life Endangerment(x/15)	8.57 (2.63)	7.87 (2.47)	1.28	85	NS

Note. Yates correction has been employed for χ^2 with 1 degree of freedom.

The 52 suicide attempters for whom data was complete were individually matched with non-suicidal controls on the following variables; age, sex, social class, employment and marital status. The difficulties in obtaining

adequate control groups for samples of suicidal individuals have been discussed elsewhere (Lester, 1972), and individual matching, even on such a small number of variables, is an uncommon undertaking in clinical and empirical investigations of attempted suicide. No significant difference existed between the suicidal and control group on any of these variables (See Table 2). The matched control was required to be an individual from the general population with no history of suicidal behaviour, nor any earlier or current psychiatric disorder.

Table 2 - Demographic Descriptors of Suicidal and Non-Suicidal Control Groups.

Variable	Group		χ^2	df	p
	Suicidal n=52	Non-Suicidal n=52			
<hr/>					
Sex					
Female	34	34	0.042	1	NS
Employment Status					
Employed	20	19	0	1	NS
Social Class					
2	2	2			
3	3	3			
4	4	4			
5	11	11			
6	21	21			
7	11	11	0	5	NS
Marital Status					
Single	25	26	0.05	3	NS
Married	17	16			
Separated	4	4			
Divorced	6	6			

			t	df	p
Mean Age	27.81	28.10			
	(12.09)	(11.91)	-0.12	102	NS

Note. Yates correction has been employed for χ^2 with 1 degree of freedom.

A list of the demographic characteristics of each member of the suicidal group was compiled. Appropriate control subjects were identified by circulating this list to social, sporting, industrial and manufacturing organizations, special interest groups within the community, and a small sample of university students. Members of these groups were requested to nominate individuals from the wider community who matched the demographic control variables. From this pool individuals were randomly selected, and when approached all but two individuals agreed to participate.

4.2.3 Materials

Three questionnaires (See Appendix A), a Demographic and Background Data Checklist, the Interview Schedule for Social Interaction (Henderson, Duncan-Jones, Byrne, & Scott, 1980) and three Visual Analogue Scales designed to assess changing emotional states and feelings were administered.

The Demographic and Background Data Checklist (See Appendix A) was based on an interview schedule previously employed in a

typological study by Henderson (Henderson et al., 1977), and on the descriptors of subtypes identified in this and a subsequent study by Henderson and Lance (1979). The content was divided into seven parts:

- (i) Standard demographic data including age, sex, social class, employment and marital status, for the purpose of subject matching across groups;
- (ii) Life events in the previous 12 months;
- (iii) The circumstances surrounding the suicidal act itself: whether self-poisoning, self-injury or both; the degree of deliberate life endangerment, derived from questions relating to their intention of dying and the chances of intervention by others; the predictable untreated outcome; and impulsivity;
- (iv) Facilitating factors such as the abuse of alcohol or drugs in the previous 12 months;
- (v) The attempter's self-reported motivation for the act;
- (vi) The diagnostic category of the attempter based on DSM-III (American Psychiatric Association, 1980);
- (vii) Previous suicidal behaviour.

Henderson's 52 item Interview Schedule for Social Interaction (ISSI) which is presented in Appendix A, provided, in a standardised form, a measure of the availability and the self-perceived adequacy of social bonds, of the persons and provisions of interpersonal relationships. Both general interpersonal contacts and close attachments could be evaluated independently. Divided into three parts, the interview schedule examined bonds with acquaintances and work associates, with friends,

and with close attachments. Throughout the interview information concerning the availability of a given type of relationship was sought, followed by items regarding its adequacy for the respondent.

Four of the indices provided by the ISSI were employed in this investigation. These were:

- (i) AVSI, the availability of social integration, that is, the availability and extent of a network providing acquaintance and friendship relationships;
- (ii) ADSI, the perceived adequacy of social integration;
- (iii) AVAT, the availability of attachment relationships;
- (iv) %ADAT, the percent adequacy of attachments, that is, perceived adequacy expressed as a proportion of the maximum adequacy score possible for the available attachments nominated by the respondent.

Acceptable levels of reliability and validity have been demonstrated for the Interview Schedule for Social Interaction (Henderson, Duncan-Jones et al., 1980). Research findings have indicated that indices on the ISSI show internal consistency, good test-retest reliability, and tap dimensions that are stable over time. Comparisons of various sociodemographic groups using the ISSI, where social network differences could be predicted a priori, have yielded expected ISSI distributions. Reported correlations between a respondent's ISSI score, that of a significant other informant, and measures of extroversion have supported the view that the ISSI allows a truthful reflection of social contacts. The contamination of ISSI scores due to the effects of response style, assessed by calculating the proportion of variance in ISSI scores explained by a multiple

regression equation using measures derived from the Lie Scale of the Eysenck Personality Inventory and the Crowne-Marlowe Inventory, was judged to be minimal (Henderson, Duncan-Jones et al., 1980).

Visual Analogue Scales, outlined in Appendix A, used on a number of occasions to assess psychopathology (Zealley & Aitken, 1969) and, more specifically, suicidal intent (Goldney, 1979) provided three additional measures. In this study the Visual Analogue Scales examined:

- (i) the degree of general satisfaction derived from life;
- (ii) satisfaction with the most significant relationship within one's social network;
- (iii) and the strength of the wish to die, the lower the score on this scale the greater the wish to die.

Intended for weekly administration, their purpose was to assess changing emotional states over the period of the study.

Each scale comprised a 100 mm horizontal line whose extremities were marked with the two poles of a particular attitude or feeling. The respondent was instructed to mark each scale at the point which best represented current feelings. The advantages of this format were many. It was simple and self-explanatory, and, therefore, required minimal subject motivation for its completion. The rater was freed from direct quantitative terms and allowed to make as fine a discrimination as he/she chose. The results were simply scored. The criticism that comparable positioning of marks need not convey that two individuals have experienced the same feeling could, as Aitken (1969) has pointed out, be

applied equally well to use of the same word or phrase. There was, therefore, no disadvantage in using the more sensitive analogue scales in preference to semantic scales.

Furthermore, Visual Analogue Scales have been demonstrated to be not only practical, but valid and reliable measures. Clarke and Spear (1964) report the Visual Analogue Scale to be both a reliable and sensitive measure in the assessment of well-being, with respondents able to place marks on Visual Analogue Scales where intended and to alter placement in order to reflect changing states. Hayes and Patterson (1921), concerned with observer rather than self-ratings using Visual Analogue Scales, have reported close correlations between single-observer ratings repeated over several months and between the concurrent ratings of different observers.

Ratings of suicidal intent have been correlated significantly with scores on the validated Beck Suicidal Intent Scale (Goldney, 1979), and good correlations with the Hamilton scale and psychiatric ratings have been reported in the assessment of depression (Zealley & Aitken, 1969).

Earlier judgements of Visual Analogue Scales as a valid and reliable technique for measuring subjective experience (Aitken, 1969) have been reaffirmed by the most recent review of their use (McCormack, Horne, & Sheather, 1988).

4.2.4 Procedure

Procedural aspects of the study were kept as standard as practicable. Suicidal individuals were referred by psychiatric medical staff and generally interviewed within 48 hours of the attempt and again six weeks later. The mean delay between attempt and initial interview was 2.44 days ($SD=1.60$). Consent of both the relevant medical staff and the prospective subject was required before an interview was undertaken. A copy of the consent form signed by all participants is shown in Appendix B.

The standardised format of the initial interview involved completion of the Demographic and Background Data Checklist, administration of the ISSI, then self-completion of the Visual Analogue Scales. In the follow-up interview the Background Data Checklist was obviously deleted. The initial interview generally lasted about 90 minutes and the follow-up contact was somewhat shorter at 60 minutes. During the inter-interview period additional Visual Analogue Scales were completed and returned by post at weekly intervals.

All data collection sessions, barring the inter-interview use of Visual Analogue Scales, were undertaken within the framework of this structured interview with an objective scoring system. The setting of the interview did vary, sometimes being undertaken in the hospital casualty department, a general or psychiatric ward, or the home of the respondent. However, instructions to all subjects were standardised, emphasising the

investigator's interests in the assessment of social relationships over time.

Further, all contacts with the subject during the period of study were undertaken by the same investigator. The problem of interviewer bias was minimal due to the objective nature of the assessment.

4.3 Results

4.3.1 Method of analysis

The interest in this analysis is in group differences in social support initially, and after six weeks, and in differences between groups in linear trends over this period for each of the measures of social support and of the wish to die.

The existence of a significant difference was assessed in each instance by an F-test, with appropriate adjustment to the significance level to control for Type 1 error. The Bonferroni adjustment is used (Keppel, 1982, p. 147) with the significance level adjusted by dividing the normal .05 value by the number of tests (21) to give a significance level of .00238. This strategy has also been advocated by Hall and Bird (1985).

This procedure of using such a small significance level is clearly very conservative. Although it controls the Type 1 error rate it may have the adverse consequence of eliminating real differences which are not

detected because the size of the sample is not large enough. Keppel (1982) suggests an intermediate strategy of noting results which are significant at the 5% level before making the Bonferroni adjustment, and treating them as trends on which judgement should be suspended. Accordingly, differences significant at the .05 level but not at the .00238 level were described as non-significant trends when discussing the results.

To establish whether there were initial deficits in social support and whether these deficits persisted at the end of the 6-week period, one-way analyses of variance were performed between group means for each measure of social support and the wish to die on each of these occasions.

It is apparent that the identification of an initial significant difference and a non-significant difference after six weeks does not demonstrate a significant change as the initial difference may be just more than the critical value and the final difference just less than the critical value. To assess the significance of changes over time in each of the seven dependent variables, analyses of group differences in linear trend were undertaken. F-tests for linear trend were calculated within a two factor analysis of variance and treated as planned comparisons with Bonferroni adjusted significance levels (Keppel, 1982).

Positive linear trend was calculated by subtracting the ISSI score recorded at the first interview from that recorded at the second interview.

Where seven data points were available, with the visual analogue scales, positive linear trend was calculated in the following manner;

$$\text{VASC}(\text{linear}) = (-3)\text{VASC0} - 2\text{VASC1} + \text{VASC2} + 0\text{VASC3} + \text{VASC4} + 2\text{VASC5} + 3\text{VASC6}$$

4.3.2 Main Findings

Inspection of group mean values (See Table 3) indicated that on all variables the suicidal group recorded substantially lower scores than the non-suicidal group at the initial interview and on several variables continued to do so at the follow-up interview. This was confirmed by the results of the one-way analyses of variance (See Table 4) which examined group differences at interview one and at interview two.

At the initial interview the suicidal group recorded significantly lower scores than the control group on all variables. In relation to three variables (AVSI, VASCA, VASCB) these significant differences persisted at the follow-up interview. The suicidal group was not significantly different from the control group at follow-up on %ADAT, and revealed only a non significant trend towards a lower score on the remaining three variables (ADSI, AVAT, VASCC).

Table 3 - Group Means and Standard Deviations on Indices of Social Support and the Wish to Die at Initial Interview and after Six Weeks.

Dependent Variable	Group			
	Suicidal		Non-Suicidal	
	M	SD	M	SD
Interview 1				
AVSI	5.83	(3.18)	9.19	(2.66)
ADSI	9.23	(4.36)	12.17	(3.27)
AVAT	4.65	(1.61)	6.06	(1.69)
%ADAT	57.21	(30.02)	74.71	(19.64)
VASCA	40.40	(28.93)	71.25	(19.52)
VASCB	53.64	(33.84)	79.42	(22.15)
VASCC	63.56	(36.55)	93.17	(13.51)
Interview 2				
AVSI	7.19	(3.53)	9.87	(2.88)
ADSI	10.73	(4.45)	12.71	(3.23)
AVAT	5.31	(1.91)	6.23	(1.54)
%ADAT	73.04	(27.23)	74.40	(23.92)
VASCA	65.39	(31.58)	82.08	(18.41)
VASCB	61.44	(36.19)	86.81	(16.29)
VASCC	76.75	(35.52)	92.65	(13.58)

Note. n=52 for each group.

Table 4 - Summarised Results of One-Way Analyses of Variance Comparing the Suicidal and Non-Suicidal Groups at the Initial and Follow-Up Interviews.

Dependent Variable	df	Error Mean Square	F	p
Interview 1				
AVSI	1, 102	8.58	34.31	p<.00238
ADSI		14.85	15.16	p<.00238
AVAT		2.71	18.90	p<.00238
%ADAT		643.27	12.38	p<.00238
VASCA		608.96	40.62	p<.00238
VASCB		817.99	21.14	p<.00238
VASCC		759.16	30.04	p<.00238
Interview 2				
AVSI		10.39	17.88	p<.00238
ADSI		15.11	6.75	p<.05
AVAT		3.00	7.38	p<.05
%ADAT		656.75	0.07	NS
VASCA		668.08	10.84	p<.00238
VASCB		787.42	21.25	p<.00238
VASCC		723.03	9.10	p<.05

Note. alpha=.00238 is determined by the Bonferroni adjustment .05/21 where 21 tests are used.

Analyses of variance of positive linear trend indicated (See Table 5) that significant group differences in linear trend existed on one variable (%ADAT). Group differences in linear trend at the .05 level on VASCA

and VASCC were also revealed. In all cases there was a greater change in social support and the wish to die in the suicidal group than in the control group.

Table 5 - Summarised Results of Linear Trend Analyses of Variance for the Suicidal and Non-Suicidal Groups.

Dependent Variable	df	Error Mean Square	F	p
AVSI	1, 102	7.27	1.71	NS
ADSI		12.76	1.88	NS
AVAT		2.27	2.65	NS
%ADAT		609.59	11.10	p<.00238
VASCA		14198.74	6.58	p<.05
VASCB		19542.74	0.10	NS
VASCC		12481.17	6.40	p<.05

Note. alpha=.00238 is obtained by the Bonferroni adjustment .05/21 where 21 tests are used.

It would appear from examination of the weekly visual analogue scale scores (See Appendix C) that most change for the suicidal group on the Visual Analogue Scales occurred between weeks 1 and 3 post attempt. This is more clearly illustrated by graphing the weekly scores on these measures as shown in Figure 1.

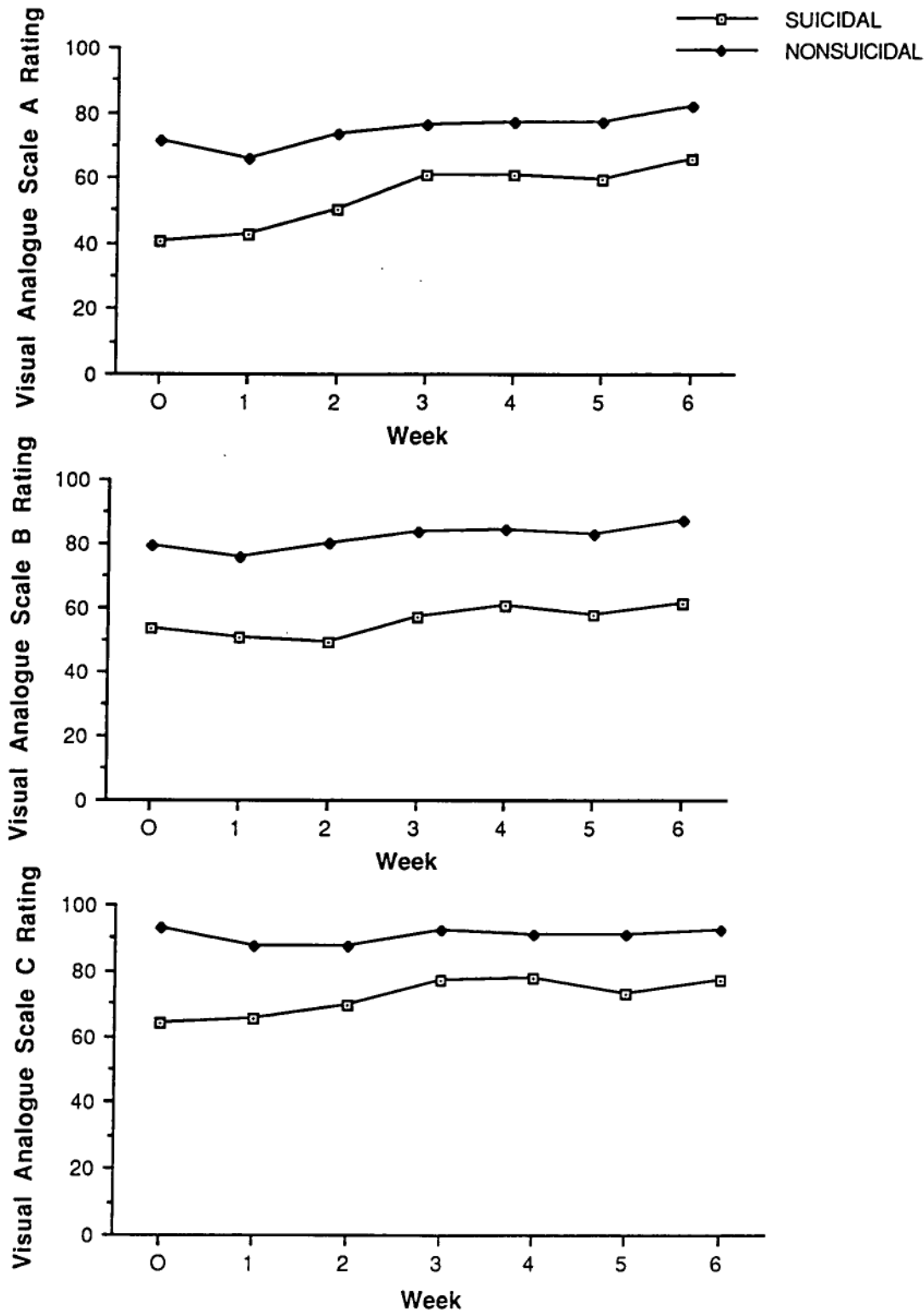


Figure 1 - Group Mean Ratings on Visual Analogue Scales A, B, and C over Period of Study Comparing the Suicidal Group and Non-Suicidal Controls.

The results of this study indicated that:

- (i) the suicidal group reported deficits on all indices of social support and a greater wish to die than the non-suicidal group compared at the time of the attempt, but was less likely to continue to report these deficits at a six-week follow-up;
- (ii) the suicidal group reported improvement in %ADAT (adequacy of attachment) and perhaps VASCA (satisfaction with things in general) and VASCC (the wish to die) over the period of follow-up, to a significantly greater degree than the non-suicidal group;
- (iii) on other measures concerned with the adequacy and also the availability of social support (AVSI, ADSI, AVAT, VASCB) the two groups recorded no relative changes; and
- (iv) the period of greatest improvement was between weeks 1 and 3 following the attempt.

4.4 Discussion

The results of this study indicated that suicidal individuals, at the time of the attempt, reported themselves to be in receipt of less social support and considered it to be less adequate than did non-suicidal individuals. This finding might be a reflection of either their greater social isolation (e.g. Bille-Brahe & Wang, 1985; Ganzler, 1967; Jacobs & Teicher, 1967; Lester, 1969; Politano, 1978; Stengel, 1969a), their more dysfunctional interpersonal environment (e.g. Bhagat, 1976; Fawcett et al., 1969; Rosenbaum & Richman, 1970; Schrut, 1968; Shagoury, 1972) or greater

recent interpersonal conflict (e.g. Bancroft et al., 1977; Daradkeh & Al-Zayer, 1988; Fieldsend & Lowenstein, 1981; Rubenstein et al., 1958), all of which have been consistently linked with suicidal behaviour. Whatever the source, the end product was a report of less social support.

More specifically, the ISSI indices, designed to assess some of the provisions of social relationships outlined by Weiss (e.g. 1974, 1979, 1982), quantify many of the clinical impressions of earlier studies. Direct parallels between earlier findings concerned with suicidal behaviour and those currently reported in relation to the ISSI may not be possible. However, the AVAT index, for example, taps the availability of attachment provided by close affectional relationships and is concerned with elements such as emotional intimacy, feelings of affection for another, and the availability of someone on whom one might lean or receive comfort. The attempter's reported deficits and dissatisfactions in this area recall reports of perceived hostility and rejection from family members (Corder et al., 1974; Hattem, 1964; Jacobs, 1980; Kumler, 1964; McKenry et al., 1982; Rosenbaum & Richman, 1970; Sabbath, 1969; Schrut, 1968) and close relationships characterised by hostility, distorted communication and little exchange of self-revealing information (Bhagat, 1976; Fawcett et al., 1969; Humphrey et al., 1971; Richman, 1968; Schrut, 1968; Williams & Lyons, 1976).

The more general dimension of social integration provided by the AVSI index, based on a combination of factors including acquaintance, friendship, reassurance of personal worth and a sense of reliable alliance is concerned with items relating to service contacts, social

encounters with friends, and the provision of advice, appreciation, praise, and practical assistance. Some parallel between these deficits (AVSI), the attempter's concern in relation to them (ADSI), and material documenting the attempter's social isolation in terms of factors such as living arrangements, or community involvement (Barter et al., 1968; Bille-Brahe & Wang, 1985; Fergusen, 1975; Humphrey et al., 1971; Nelson et al., 1977) may be drawn.

In a similar departure from the early suicide literature, and in the manner of Hart and Williams (1983), a recent clinical control group study by Veiel (Veiel, Brill, Hafner, & Welz, 1988) has attempted to quantify the range of support available to the suicidal individual. The results of this study, accepted with some caution as the data base was derived from structured interview items with face validity but on which no psychometric data was presented, are encouraging. While no significant difference between attempters and controls in relation to number of people whom they believed would provide instrumental and everyday support was reported, in relation to the provision of crisis support and enduring emotionally satisfying interactions crucial differences emerged.

In contrast to Veiel's (Veiel et al., 1988) cross-sectional study, the present investigation was also concerned with change in social support available to the attempter over time. Self-reported improvement in indices of social support and of the wish to die following the attempt was indicated and is consistent with many earlier studies documenting the sequelae of suicidal behaviour. Most commonly, these have been positive changes

in interpersonal and family relationships following the attempt (Adam et al., 1983; Lukianowicz, 1975; Rubenstein et al., 1958; Williams & Hanson, 1976).

The findings of both initial deficits in social support and of change following the act are open to a number of interpretations. It could be argued that the reported initial deficits in social support are simply an expression of the interpersonal conflict which has directly prompted suicidal behaviour (Bhagat, 1976; Rosenbaum & Richman, 1972). On the other hand, suicidal behaviour might be attributable at least in part to increasing life event stress (Paykel, 1976), with the attempter's existing social support system becoming unable to cope. The results would also be consistent with the conceptualisation of attempted suicide as a communicative act whereby a need for greater support is signalled (e.g. Murphy & Robins, 1968). Further, credence is given to the appeal function of the attempt (Stengel & Cook, 1958), and to its conceptualisation as a care-eliciting (Henderson, 1974) or operantly conditioned (Bostock & Williams, 1974) behaviour by data suggesting change in social support following the attempt.

Within such a framework the failure of the attempt to elicit a positive outcome, or the transient nature of positive gain (Kiev, 1974; Sifneos, 1966; Stengel, 1969a) has frequently been linked with repetition of suicidal behaviour. In this study, reported change, either positive or negative, was less apparent after the third week following the attempt. In the latter part of the follow-up period the suicidal group was still clearly

disadvantaged relative to the control group on some measures of social support (AVSI, VASCA, VASCB), and deficits significant at the .05 level remained on most of the other social support measures (ADSI, AVAT), together with a greater wish to die (VASCC). The six-week period following the attempt could, therefore, be considered a continuing period of severe suicidal risk.

The first one-to-two years following an attempt, but particularly the first three months is commonly considered to be the period of greatest risk of repetition (Bancroft & Marsack, 1977; Rygnestad, 1988; Wang et al., 1985). The proportion of suicide attempters who repeat the attempt have been variously estimated as between 20-30% (Morgan, Barton, Pottle, Pocock, & Burns-Cox, 1976; Rygnestad, 1988; Siani, Garzotto, Zimmermann Tansella, & Tansella, 1979; Wexler et al., 1978) and 45-50% (Bancroft et al., 1977; Bille-Brahe, 1982) in the following year. In the present investigation five subjects made subsequent attempts during their period of follow-up, at intervals varying from the first to fifth weeks following initial contact. All five were female, and four of the five were between the ages of 19 and 24. All had a history of psychiatric treatment and of previous suicidal behaviour, had been given a formal psychiatric diagnosis on presentation, and were receiving inpatient psychiatric treatment at the time of the subsequent attempt.

A further interpretation of changing social support scores suggests that the changes noted are most simply explained as treatment effects rather than interpersonal manipulations. This interpretation has some support

since greatest improvement seemed to be localised to a two-week period between weeks one and three when presumably much of the treatment effort was made. Of the 52 subjects considered, 39 were hospitalised, for a mean period of 10.13 (SD=10.89) days (See Table 1). However, psychiatric or social work follow-up consisting of more than a single session was provided for only 22 of the 52 attempters.

It is also of note that the suicidal group's increase in perceived satisfaction with available support over the period of follow-up occurred despite an apparently unchanged support base. There was improvement on %ADAT and possibly VASCA but no other support variable. While it is possible that the indices employed simply did not tap the relevant components of support which underwent change, the intrapersonal rather interpersonal locus of subsequent change cannot be ruled out. The attempter may have come to view his/her support system in a more favourable light, may have become less distressed and, therefore, more positive in his/her self-report, or may have required less of his/her social support system.

A number of differences have been found between the suicidal group and the non-suicidal control group in terms of social support and the wish to die reported at the time of the initial interview, and in the change in these variables over the period of study. In relation to the present analysis, and as noted already, Bonferroni adjustments have been made to the significance level to control Type 1 error. Replication is, therefore, important to confirm the findings so far reported. A direct replication

study, as outlined by Barlow and Hersen (1984) is necessary to establish the generality of findings across similar subjects. Such an investigation would also provide the opportunity to assess the extent to which reported support patterns are specific to the occurrence of suicidal behaviour rather than a reflection of more general distress.

A second issue is raised by recognition of the heterogeneity of the suicidal population (e.g. Henderson & Williams, 1974; Lester, 1983; Stengel & Cook, 1958) and the reported variation in a range of social support variables with factors such as symptom or diagnostic type (Brugha et al., 1982; Pattison & Hurd, 1984; Westermeyer & Neider, 1988). Clinical and empirically based studies of suicidal behaviour have, for example, described a range of suicidal subtypes in terms of single variables such as the seriousness of the act (e.g. Dorpat & Boswell, 1963) or the presence of depressive symptomatology (e.g. El-Gaaly, 1971) or on the basis of multiple variables identified by multivariate statistical techniques (e.g. Colson, 1973; Henderson et al., 1977; Paykel & Rassaby, 1978). More generally, distinctions have been made between non-patient, neurotic and psychotic non-suicidal populations in terms of structural social network differences in studies such as those of Pattison and Hurd (1984). Therefore, the possibility of the described suicidal group being an aggregate of different subtypes who have different interpersonal environments, must be considered. If this is the case, the preceding results will mask these differences. A continuing exploratory examination of social support variables within clearly defined subtypes in the sample is indicated. To date, one investigation addressing these issues has been reported (Hart & Williams, 1987).

Chapter 5

An Empirically Derived Typology of Attempted Suicide



5.1 Introduction

Clinical data attests to the heterogeneity of the suicidal population whose behaviour encompasses a range of severity of attempt, apparent motivation, previous history and personal characteristics. The act itself has been frequently described as a symptomatic behaviour with multiple determinants and generally considered beyond the scope of any single paradigm (Roy, 1985b) or treatment approach (Adam, 1985). These observations allow speculation that the significance of social support variables may be non-uniform across the suicidal population. It is considered difficult to determine this with the application of traditional large group comparison designs, which tend to be vague about subject parameters and therapeutic changes by averaging them across subjects (Barlow & Hersen, 1984). Research effort might, therefore, profitably focus on the identification and validation of clinically meaningful subtypes within the suicidal population. In this review a range of typological studies will be presented in order to further underline the diversity of the suicidal population and to demonstrate the increasing methodological sophistication of these endeavours.

The earliest attempts to define subtypes of suicide attempters consisted of theoretical classifications or formulations based upon clinical observations (Devries, 1968; Finch & Poznanski, 1971; Pokorny, 1974). For example, suicidal individuals, in a sample comprising completed suicides, attempters, and ideators, were classified by Pokorny (1974) on the basis of a range of factors concerned with the act; lethality, intent,

mitigating circumstances and method. An early attempt to define suicidal behaviour on multiple dimensions, not only the form of the behaviour but also the individual's psychological status, and the presence or absence of previous attempts, was proposed by Devries (1968).

The formulation of more empirical classification systems has taken several forms. Arguably the simplest of these are rationally derived classifications of empirical data from samples of suicidal individuals (Hankoff, 1979; Shneidman, 1980). One example of such a classification has been provided by Hankoff (1979), who described three types of attempters, those whose acts were stress caused and for whom anger was a strong motive, those seeking escape from a recent extreme crisis, and those with personality disorders and a history of attempts.

Classifications based on the ability of selected variables to discriminate between a priori groups defined in terms of variables such as the seriousness of the attempt (Dorpat & Boswell, 1963; Rosen, 1970; Sendbeuhler, Kincel, Beausejour, & Nemeth, 1978), repetition of the act (Bagley & Greer, 1971; Bancroft & Marsack, 1977; Ennis, Barnes, & Spenser, 1985; Maxmen & Tucker, 1973; Pattison & Kahan, 1983) or the presence of depressive symptoms (El-Gaaly, 1974; Stallone, Dunner, Ahearn, & Fieve, 1980) are well represented. Study of the depressive attempter (Stallone et al., 1980) in which the ability of predictor variables to identify group membership in a sample heterogeneous with regard to suicidal behaviour was assessed by means of discriminant function analysis, and Sendbeuhler's (Sendbeuhler et al., 1978) examination of

group differences in psychological test profiles for attempters of varying degrees of seriousness as indicated by their motivation and communication of intent, are typical examples.

Classification of pertinent factors by multivariate statistical techniques, most commonly cluster analysis (Choquet et al., 1980; Colson, 1973; Henderson et al., 1977; Henderson & Lance, 1979; Kiev, 1976; Paykel & Rassaby, 1978; Wold, 1971) or factor analysis (Bagley, 1973; Kiev, 1974, 1976), represent the most statistically sophisticated typological approaches employed to date. Techniques such as these are considered to be most useful where data presents, as in the case of suicidal behaviour, with apparent diversity but no clear-cut separations between distinct groups (Paykel & Rassaby, 1978).

Consistent with earlier studies, multivariate statistical techniques have frequently identified subtypes such as the depressive attempter (Henderson et al., 1977; Henderson & Lance, 1979; Kiev, 1976; Paykel & Rassaby, 1978), the tension-reducer (Henderson & Lance, 1979), and the repeater (Choquet et al., 1980; Henderson & Lance, 1979; Paykel & Rassaby, 1978). However, few subtypes can be regarded as empirically established and there is little consistency in the typological systems derived. The wide variation in the samples studied, the variables analysed, and the classification methods used are major contributors to this diversity.

The purpose of this study, therefore, was twofold. Firstly, it sought, by means of multivariate statistical techniques, to analyse a set of relevant variables which characterise the suicidal group with a view to identifying relatively homogeneous subtypes. Secondly, it proposed to examine the quality and changing status of social support for each of the identified subtypes.

5.2 Derivation of Suicidal Subtypes

5.2.1 Subjects

All 87 subjects available for the initial interview provided data for this analysis.

5.2.2 Materials and Procedure

As outlined for the initial study

5.2.3 Method of Statistical Analysis

Variables were selected from the Demographic and Background Data Checklist for inclusion in a cluster analysis in order to identify potentially clinically useful subtypes of the suicidal population. Selection of variables was guided by considerations outlined in previous typological studies (Henderson et al., 1977; Henderson & Lance, 1979), such as the importance of drawing upon a good sampling of the various dimensions

by which suicidal behaviour can be described. This was undertaken in such a way so as to give appropriate weight to the various factors deemed relevant to a classification of suicide attempters. With the potential for identification of individuals who may require different treatment a foremost consideration, the focus was on treatment variables such as conditions, symptoms or events which could conceivably be modified or prevented. Background or developmental variables were regarded as of lesser importance.

On the basis of these guidelines 26 variables (listed in Appendix D) were derived from the Demographic and Background Data Checklist and used in a cluster analysis. This produced:

- (i) 9 variables derived from items relating to recent life events and to alcohol/drug abuse, of which all but the variable concerned with family and relationship change was reduced to binary data due to infrequent endorsement of more than one item under any category heading. Items concerned with family and relationship change were reduced to a single ordered multistate variable;
- (ii) a further 5 qualitative or binary variables concerned with previous expression of suicidal threats, occurrence of previous suicidal behaviour, the presence of psychiatric disorder, and in relation to the current attempt the use of self poisoning and of self-injury;
- (iii) 2 ordered multistate variables concerned with the impulsivity and the predicted untreated outcome of the attempt;
- (iv) one numerical variable concerned with the symptoms of depression experienced in the last 3 months, was, on viewing the distribution of

scores, reduced to an ordered multistate variable; and

(v) 9 numerical variables based on combinations of non-numerical variables, 8 of which were derived from items on self-reported motivation for the attempt and one was concerned with the degree of life endangerment associated with the attempt.

Since different techniques of cluster analysis applied to the same set of data may give very different results it was considered important to attempt some validation of the clusters found. This was accomplished by applying two clustering techniques to the data, and accepting as definite entities only clusters found by both methods. Two clustering techniques available within the SPSSx package (SPSS Inc., 1986) were applied to the data. The first was an agglomerative hierarchical technique known as Ward's Method and the second was a hierarchical method based on average linkage within groups. Both procedures use a four step agglomerative process in which the proximities between the individual cases are computed, the two nearest cases (clusters) are combined to form a new cluster, the proximities between the existing clusters and the new cluster are computed, and the next two nearest clusters are combined until all cases have been combined in one cluster.

It has been suggested that natural clusters produced by such procedures may be identified by a significant drop of discontinuity in the value of the fusion coefficient. However, the sample size of 87, of which only 52 had provided complete social support data for further analysis, imposed limits on the number of clusters into which the sample might be sorted in order

for there to be viable groups for subsequent analysis. Accordingly, solutions with two to five clusters were produced. The degree of agreement between the two clustering methods at varying cluster levels was used to determine the cluster level to be employed in further analysis.

5.2.4 Results of the Cluster Analyses

The results of the cluster analyses using Ward's Method and Within Group Average Linkage were compared using two, three, four and five cluster solutions. The 5 cluster level produced identical allocation of subjects with 59.8% of the sample, but this dropped to 43.7% at the four cluster level. When sorted into three clusters agreement rose to 89.7% but fell slightly to 80.5% at the two cluster level. It was decided that further examination of the clusters produced would be confined to the three cluster level.

The clusters of cases resulting from each of these two techniques were placed in a programme for discriminant analysis of several groups, with the subjects in each cluster comprising the original groups in the discriminant analysis programme. The purpose of this was to provide a means of specifying group membership in terms of a restricted number of defining variables and to determine how accurately individuals could be reclassified into their original cluster groups.

The discriminating variables for this analysis were selected on the basis of a series of univariate F-tests carried out in relation to each of the 26 variables used in the cluster analyses. In this way the degree to which the clusters differed on each variable was determined (See Table 6), and for each of the two clustering techniques the variables on which clusters differed significantly ($p < .05$) were selected.

Table 6 - Variables Best Describing Clusters Derived by Ward's Method and by The Within Group Average Linkage Technique at the Three Cluster Level

Variable	Ward's Method		Within Group Average Linkage	
	F ratio	p	F ratio	p
Previous Suicidal Threats	1.40	NS	0.87	NS
Illness	0.63	NS	0.64	NS
Pregnancy	0.36	NS	0.22	NS
Bereavement	0.76	NS	0.68E-01	NS
Drug/Alcohol	2.62	NS	1.40	NS
Employment/ School	0.50	NS	0.12	NS
Finance	1.12	NS	1.67	NS
Legal	0.55	NS	0.48	NS
Mobility	0.15	NS	0.19	NS

Psychiatric Disorder	2.57	NS	3.09	NS
Untreated Outcome	0.47	NS	1.15	NS
Self-Poisoning.	1.70	NS	1.97	NS
Self-Injury	0.34	NS	0.56	NS
Impulsivity	1.16	NS	1.23	NS
Recidivism	1.85	NS	1.79	NS
Family Change	0.53	NS	1.65	NS
Depressive Symptoms	4.49	*	4.26	*
Life Endangerment	1.23	NS	4.91	**
Depress.Motivation	14.51	**	15.60	**
Extrapunitive	82.48	**	41.48	**
Alienation	56.63	**	46.24	**
Operant	18.47	**	20.73	**
Modelling	4.97	**	3.58	*
Avoidance	1.95	NS	2.55	NS
Tension-Reduction	1.49	NS	1.74	NS
Janus-faced	7.23	**	11.50	**

* = $p < .05$

** = $p < .01$

The accuracy with which the subsequent discriminant analysis reassigned subjects to their original three clusters was 94.3% in relation to Ward's technique and 89.7% for the Within Group Average Linkage Method. Both results were satisfactory. It was possible, therefore, to reconstruct the cluster grouping by an independent method (i.e. discriminant analysis) with a high degree of accuracy.

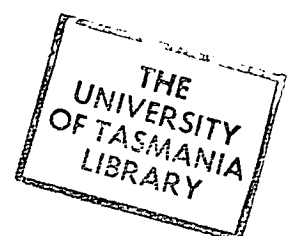
Cluster analysis using Ward's method produced three clusters of 17, 53 and 17 subjects. Subsequent discriminant analysis re-sorted these into groups of 18, 51, and 18 subjects respectively. Cluster analysis using the Within Group Average Linkage technique produced clusters of 19, 56, and 12 subjects while the subsequent discriminant analysis produced groups of 20, 54 and 13 subjects respectively.

Examination, for each cluster, of the mean values for variables which differed significantly between clusters provided the following descriptors (See Table 7) with Ward's method:

Cluster 1 was comprised of those most likely to have experienced symptoms of depression during the previous three months, and to report depression and alienation as motivations for the current attempt;

Cluster 2 was low on measures of alienation and operant motivation for the attempt, but was really only distinguished from the other two clusters by high scores on modelling as a reported motivation for the attempt; and

Cluster 3 described those most likely to report extrapunitive, operant and Janus-faced motivation for the current attempt.



Similarly, the Within Group Average Linkage technique produced clusters described in the following way:

Cluster 1 represented those most likely to have experienced symptoms of depression in the last three months, to report depression and alienation as motivations for the attempt, and to have made an attempt which carried with it a high degree of life endangerment;

Cluster 2 was lowest scoring on alienation, operant and Janus faced motivation, but again really only distinguished by high scores on modelling as a motivation for the attempt;

Cluster 3 comprised those most likely to report extrapunitive, operant and Janus-faced motivation for the attempt, and to have made an attempt of low life endangerment.

Table 7 - Cluster Means and Standard Deviations on the Discriminating Variables produced by Ward's Method and the Within Group Average Linkage Method of Cluster Analysis

Variable	Depressed		Cluster Modelling		Operant	
	M	SD	M	SD	M	SD
Ward's Method						
Depressive Symptoms	3.12	(0.70)	2.68	(0.58)	2.53	(0.62)
Depress Motiv.	12.82	(2.21)	9.04	(2.75)	9.35	(2.18)
Extrapunitive	7.18	(0.95)	7.57	(1.80)	13.59	(2.21)
Alienation	13.06	(1.75)	7.38	(1.85)	9.24	(2.28)

Operant	8.24	(2.08)	6.91	(1.93)	10.18	(1.91)
Modelling	5.06	(0.24)	5.83	(1.46)	5.00	(0.00)
Janus-faced	5.59	(2.24)	5.26	(1.46)	7.12	(2.06)

Within Group Average Linkage Method

Depressive Symptoms	3.05	(0.71)	2.70	(0.60)	2.42	(0.51)
Life Endanger.	6.89	(2.38)	8.25	(2.55)	9.67	(1.83)
Depress Motiv.	12.68	(2.06)	8.95	(2.72)	9.50	(2.24)
Extrapunitive	7.58	(1.68)	7.91	(2.29)	13.92	(2.15)
Alienation	12.68	(1.70)	7.50	(2.18)	9.08	(1.73)
Operant	8.16	(2.19)	7.02	(1.89)	10.92	(1.56)
Modelling	5.05	(0.23)	5.77	(1.44)	5.08	(0.29)
Janus-faced	6.16	(2.54)	5.13	(1.35)	7.58	(1.38)

The clusters were similar but the operant extrapunitive group was not uniformly low on life endangerment which is of particular clinical interest. Although the clusters produced by Ward's method were identified with marginally greater accuracy, clinical and theoretical considerations indicated that use of the results of the alternative clustering technique was preferable. It produced clusters with somewhat more meaningful cluster descriptors, and replicated clusters previously reported using suicidal subjects from the same geographic region (Henderson et al., 1977; Henderson & Lance, 1979).

5.3 Subtype Social Support Comparison

The three suicidal subtypes delineated by cluster analysis were differentiated primarily in terms of motivation for and seriousness of the attempt. Two of the three groups produced by the cluster analysis possessed relatively clear descriptors. While one was defined by greater operant, extrapunitive and Janus-faced motivation together with lesser life endangerment, the other was described by recent symptoms of depression, depressive and alienated motivation, and greater life endangerment. The link between less serious attempts and interpersonal motivation on the one hand, and higher risk to life and less interpersonal motivation on the other has been noted elsewhere (e.g. Dorpat & Boswell, 1963; Paykel & Rassaby, 1978).

The proposition that the two subtypes so described by the cluster analysis were likely to differ on some dimensions of social support had some face validity. However, a review of the relevant literature indicated that prediction of the status of and possible change in the attempter's social environment from knowledge of the motivation for or seriousness of the attempt was uncertain. Both the existence of a dysfunctional interpersonal environment and the probability and pattern of its change subsequent to attempted suicide have been linked to a variety of suicidal acts.

An individual, whose attempt is of low life endangerment, being undertaken in a setting close to others with reversible methods, and

against a background of family disturbance or conflict has been described by Henderson and Lance (1979) and others (Dorpat & Boswell, 1963; Henderson et al., 1977; Kiev, 1976). Often the motivation for the act is overtly interpersonal, directed at effecting change in others, and the intent to die is low (Dorpat & Boswell, 1963; Henderson et al., 1977; Henderson & Lance, 1979). Similar descriptors have characterised the multiple repeater, where the act is not medically serious, and the attempter is considered to be a product of a grossly disturbed chaotic family, and exposed to continuing family disturbance, severe interpersonal difficulties, social isolation and few social supports (Ennis et al., 1985). Factors identified by Worden (1976) as of influence in the low lethality attempt have included a lesser history of psychiatric care, and a large family of origin, with whom the attempter was angry prior to the attempt, and from whom offers of help were refused.

Subtypes identified by the high life endangerment of the act, which was motivated by depression rather than interpersonal factors, have also been described by these typologies (Henderson et al., 1977; Henderson & Lance, 1979; Kiev, 1976). Attempts of greater life endangerment have been associated with lesser family disruption or marital disturbance than their less serious counterparts (Henderson et al., 1977; Henderson & Lance, 1979) or reports of little or no interpersonal conflict, and the availability of supportive significant others (Kiev, 1976).

However, the relative adequacy and integrity of the interpersonal environment of the serious attempter has not always been described as

satisfactory. Although depression, hopelessness, a wish for death, and little concern about rescue or directing change in others, were variables used by Dorpat and Boswell (1963) to describe the serious attempter, a lack of social interaction, loss of loved ones and grief reaction were also noted. Similarly, Worden (1976) reported that a history of psychiatric disorder, being the only or oldest child of small family, a life-long inability to get along with people, few friends, and generally mutually destructive dependent relationships, were the factors of influence on the high lethality attempt.

The variation in findings may be attributable to a range of methodological differences between these investigations, such as sample differences and variations in the definition of variables, the source of data, and the methods employed in the formation of subtypes or subsequent analyses. Sample differences cannot be evaluated with the data available from the studies reviewed and no clear correlations between reported findings and the remaining factors are apparent. Definition of the seriousness of an attempt demonstrates some consensus, but assessments of social environment are poorly specified and comparability across investigations cannot be readily accomplished.

It could also be argued that social environment, rather than being a unidimensional factor with relevance for some suicidal subtypes but not for others, is multifaceted with different facets pertinent to the occurrence of suicidal behaviour of varying degrees of seriousness. Reports of a positive relationship between social environment difficulties and a

specific suicidal subtype may well depend on the particular feature of the environment which is being assessed. Comparison of the social environment descriptors of Worden (1976) and of Dorpat and Boswell (1963) with those employed in other typologies (e.g. Henderson et al., 1977; Kiev, 1976) is suggestive of this.

A further factor in the evaluating of these findings is the complexity of the determinants of suicidal behaviour. The typology of Kiev (1976), for example, suggests the existence of several subtypes of both the more and less serious attempter, for which a dysfunctional social environment may have varying aetiological significance.

The social sequelae of the attempt are likely to be influenced by a variety of factors including the integrity of the attempter's existing interpersonal network and its experience of suicidal behaviour, as well as the perceived seriousness of and motivation for the act. A brief review of the literature indicates that investigations which document the social sequelae of a suicide attempt often insufficiently specify the characteristics of the sample so that subtypes may be identified. Follow-up studies where subgroups of the sample are identified, are often concerned with other variables such as psychiatric diagnosis (e.g. Retterstol, 1974; Wolk-Wasserman, 1985, 1986), or, although providing data on the seriousness of the attempt, do not consider the relationship between seriousness and social outcome (Kessel & McCulloch, 1966; Rosen, 1970; Stengel & Cook, 1958).

Further, few empirically derived typologies are concerned with social prognosis and the subsequent social follow-up of attempters. A rare exception is the work of Kiev (1976) who reports that increased symptomatology and increased interpersonal conflict are more frequently, although not invariably, associated with high-risk attempts.

A number of follow-up studies which do document positive social change subsequent to the attempt appear to be concerned with the less serious attempt where interpersonal motivation is apparent (Angle et al., 1983; Rubenstein et al., 1958; Williams & Hanson, 1976). For example, in a sample where attempts were rated in terms of seriousness, by taking into account the setting and method of the act, Rubenstein (Rubenstein et al., 1958) reported that a desired effect (i.e. an interpersonal intent) could be discerned in attempts representing a range of severities, but that achievement of some desired effect was more common in relation to the less severe attempt. Attempts where no desired effect could be discerned were all relatively severe. However, specification or standardisation of these desired effects was not described.

A two month follow-up of a small sample of attempters by Williams and Hanson (1976) identified desired effects in 21/22 cases, their achievement in 16/22, and their maintenance at two months by 11/22. These desired effects referred to changes in the attitudes and behaviours of the attempter's significant others towards the attempter. While the characteristics of those for whom social gains were made was not clearly identified in this investigation, from the data concerning the method and setting of the attempt presented by the authors it may be inferred that the

majority of their sample (19/22) made attempts of low life endangerment. A longer follow-up study (9.5 years) by Angle (Angle et al., 1983) of adolescent attempters who had made a suicide gesture of low lethality also revealed positive social change. A greater proportion of the group subsequently rated their relationships with parents as satisfactory than had done so at the time of the original attempt. However, the sample in this study was small, those contacted and interviewed represented only a small part of the original sample, and the basis on which ratings of the lethality of the attempt were made was not given.

In contrast, the results of the 4 and 12 month follow-up study of attempters by McCulloch and Philip (1972) indicated that the degree of life endangerment of the attempt appeared to be unrelated to subsequent social change. However, it was noted that attempters who used any method other than the ingestion of drugs or the inhalation of household gas in their attempt tended to deteriorate socially after the attempt more than those who used these more conventional methods. Further, there was more frequently a positive social change where it was felt that the motive for the act was concerned with difficulties in personal relationships rather than with material circumstances or other factors. While the definition of life endangerment employed by McCulloch and Philip (1972) did not differ appreciably from that of other investigators reviewed here, their understanding of social change, based on the attempter's assessment of change in the factors which had originally precipitated the attempt, may be a source of variance.

A range of social outcomes, both positive and negative, have been described by Sifneos (1966) and by Greer and Lee (1967). The former was concerned with the manipulative attempter, who was defined in terms of interpersonal intent, and for whom a low degree of life endangerment might be inferred from the data provided by the authors. The latter examined potentially lethal attempts in a follow-up study with a mean follow-up period of 2.5 years after discharge, and focused on social adjustment in the areas of work record, interpersonal relations, sexual adjustment and marital relationships.

The nature of social outcome reported by Hawton (Hawton, O'Grady et al., 1982) in a one month follow-up of adolescent attempters varied with the social variable considered. Where the problems precipitating an attempt were concerned with boy/girlfriends, improvement or resolution was generally reported, but not where they involved psychiatric disorder, social isolation, or other interpersonal conflicts. This issue is further underlined by the typological study of Bancroft (Bancroft et al., 1977) which highlighted the importance of interpersonal problems in relation to the occurrence of attempted suicide and led the authors to suggest "...that the most useful typology, particularly for purposes of clinical intervention and understanding the determinants of such behaviour, may be derived from a more detailed study of the types of relationship problem" (p. 302).

This review of studies concerned with the social outcome of attempted suicide has shown that sufficient specification of the nature of social change is generally absent. Considerable variation in the definition and method of assessment of social change, and in the follow-up periods

employed allows only tentative conclusions to be drawn from between-study comparisons. Consideration of more simply-defined outcomes such as repetition or subsequent completed suicide, which have some relationship to the social outcome of an attempt (e.g. Stengel, 1969a), is not without similar difficulties.

Attempts to conceal the act and avoid discovery (an index of psychological seriousness) and the lack of medical seriousness of the attempt were among the best predictors of further attempts in untreated individuals according to the analysis of Bagley and Greer (1971). In contrast, the findings of Kessel and McCulloch (1966) and others (Kiev, 1976; Morgan et al., 1976) have indicated that seriousness of the initial attempt was a poor predictor of subsequent repetition. Several writers have reported a positive relationship between seriousness and the probability of subsequent suicide (Hoffmann & Modestin, 1987; Rosen, 1970; Tuckman & Youngman, 1968), while Greer and Lee (1967) found that long term risk in patients who made potentially lethal attempts appeared to be no higher than that among attempted suicides in general.

Once again differences in samples and subsequent treatment, and in various aspects of procedure may account for some of this variation. However, the diversity of attempters who may repeat the attempt is also recognised, and made explicit in the work of Bancroft and Marsack (1977). Rating an attempt on any single dimension, therefore, whether seriousness or motivation, may have limited prognostic value.

This review highlights the fact that typological and follow-up investigations to date have been of variable quality and nature. One implication of this literature is that neither subtype differences in initial levels of social support nor differences in patterns of social support change following an attempt can be readily predicted. The present investigation, in employing an empirically derived typology to which standardised and quantifiable measures of social support may be applied, represents a more rigorous attempt to address these issues.

5.3.1 Subjects

Of the 20 cases identified as members of Group 1 by the results of the cluster analysis and subsequent discriminant analysis, 18 had provided social support data and were, therefore, available for inclusion in this analysis. Twenty-six of the 54 cases identified as Group 2, and 8 of the 13 cases identified as Group 3 were also available. These three subtypes were compared with the 52 non-suicidal control subjects from the original analysis.

5.3.2 Design

A 4-group repeated measures design was employed. A comparison of the three suicidal subtypes and the non-suicidal control group on the seven variables of social support and the wish to die previously analysed was made.

5.3.3 Results

5.3.3.1 Method of analysis

The interest in this analysis based on the first study, was, once again, in group differences on each of the seven measures of social support and the wish to die initially, and after six weeks, and in differences between groups in linear trends over this period.

To establish whether there were initial deficits in social support and whether these deficits persisted at the end of the 6-week period one-way analyses of variance were performed again employing a significance level of $.05/21 = .00238$. Results which were significant at the 5% level before making the Bonferroni adjustment were noted. To further interpret the meaning of group differences found to be significant by the Bonferroni adjusted F-tests, Tukey tests were performed at the .05 significance level to identify the difference between group means which were most likely to be significant.

To assess the significance of changes over time in each of the seven dependent variables concerned with social support and the wish to die, F-tests for linear trend were calculated within a two factor analysis of variance and treated as planned comparisons with Bonferroni adjusted significance levels (Keppel, 1982).

Computation of a measure of linear trend was carried out in the same manner as in the original analysis. For ISSI variables, the ISSI subscale score at the first interview was subtracted from the ISSI subscale score at the second interview. Linear trend was computed for each of the three visual analogue scales in the following way:

$$\text{VASC}(\text{linear}) = (-3)\text{VASC0} - 2\text{VASC1} - \text{VASC2} + 0\text{VASC3} + \text{VASC4} + 2\text{VASC5} + 3\text{VASC6}$$

5.3.3.2 Main Findings

The results of the one-way analyses of variance of group means at each interview (See Table 8) indicated significant group differences at the initial interview on all variables. At the second interview significant group differences were found in relation to only two variables (AVSI, VASCB). No significant differences were reported on %ADAT, and non-significant trends towards group differences were found on the remaining four variables (ADSI, AVAT, VASCA, VASCC).

At the initial interview the depressed-high risk group scored lower than the other groups on all measures except VASCB, and the non-suicidal control group scored highest on all seven measures, as shown in Table 9. The depressed-high risk group was significantly less than the non-suicidal group on all variables, and the modelled group was significantly less on 5/7 (AVSI, AVAT, VASCA, VASCB, VASCC). However, the operant-low risk group was significantly different from the non-suicidal group on only one variable (VASCB).

Table 8 - Results of One-Way Analyses of Variance Comparing the Three Suicidal Subtypes Produced by Cluster Analysis and the Non-Suicidal Control Group at the Initial and Follow-Up Interviews.

Dependent Variable	df	Error Mean Square	F	p
Interview 1				
AVSI	3, 100	7.97	15.63	p<.00238
ADSI		13.39	9.96	p<.00238
AVAT		2.60	8.68	p<.00238
%ADAT		545.68	11.61	p<.00238
VASCA		581.69	16.44	p<.00238
VASCB		808.20	8.21	p<.00238
VASCC		712.84	13.54	p<.00238
Interview 2				
AVSI		10.45	6.41	p<.00238
ADSI		14.60	4.19	p<.05
AVAT		2.94	3.89	p<.05
%ADAT		638.00	1.69	NS
VASCA		661.31	4.67	p<.05
VASCB		765.58	8.92	p<.00238
VASCC		711.75	4.29	p<.05

Note. alpha=.00238 is determined by the Bonferroni adjustment .05/21 where 21 tests are used.

At the initial interview the three suicidal groups were not significantly different on 3/7 variables (AVAT, VASCA, VASCB). On the remaining four variables (AVSI, ADSI, %ADAT, VASCC) the depressed-high risk group was significantly less than the modelled group. The depressed-high risk group was also less than the operant-low risk group on one variable (ADSI), but was not shown to be significantly different from the operant-low risk group on three variables (AVSI, %ADAT, VASCC). This finding in relation to the variables AVSI and VASCC occurred despite the size of the group mean differences, due to the small size of the operant-low risk group. The modelled and operant-low risk groups did not differ significantly on any of the seven dependent variables.

Table 9 - Group Means and Standard Deviations on Indices of Social Support and of the Wish to Die at Presentation and after Six Weeks.

Dependent Variable	Interview	Group			
		Depressed Suicidal (n=18)	Modelled Suicidal (n=26)	Operant Suicidal (n=8)	Non Suicidal (n=52)
AVSI	1	4.17 (2.55)	6.54 (3.37)	7.25 (2.44)	9.19 (2.66)
.....					
ADSI		6.72 (4.08)	10.42 (3.66)	11.00 (5.01)	12.17 (3.27)

AVAT		3.89 (1.68)	5.00 (1.55)	5.25 (1.04)	6.06 (1.69)
		<hr/>			
VASCA		28.44 (30.09)	46.46 (29.80)	47.63 (12.81)	71.25 (19.52)
		<hr/>			
VASCB		53.78 (32.62)	58.42 (33.72)	37.75 (36.43)	79.42 (22.15)
		<hr/>			
VASCC		48.61 (39.46)	71.46 (35.51)	71.50 (23.81)	93.17 (13.51)
		<hr/>			
		Depressed Suicidal	Operant Suicidal	Modelled Suicidal	Non Suicidal
%ADAT		37.50 (29.60)	61.88 (28.37)	69.42 (23.98)	74.71 (19.64)
		<hr/>			
		Depressed Suicidal	Modelled Suicidal	Operant Suicidal	Non Suicidal
AVSI	2	6.50 (3.60)	7.42 (3.51)	8.00 (3.63)	9.87 (2.88)
		<hr/>			
ADSI		9.06 (4.83)	11.42 (4.31)	12.25 (3.06)	12.71 (3.23)
		<hr/>			
AVAT		4.72 (1.87)	5.46 (2.04)	6.13 (1.13)	6.23 (1.54)
		<hr/>			

%ADAT	62.28 (29.61)	78.65 (24.93)	79.00 (24.45)	74.40 (23.92)
VASCA	57.78 (32.17)	67.46 (32.08)	75.75 (28.07)	82.08 (18.41)
VASCB	52.39 (37.75)	54.25 (41.48)	69.92 (32.72)	86.81 (16.29)
VASCC	73.81 (35.91)	73.67 (40.14)	93.25 (17.50)	92.65 (13.58)

Note. The two end groups with a dotted underline are not significantly different at the .05 level but because of differences in group sizes a group with an intermediate mean may differ significantly from one of the two end-groups. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

At the second interview there was no significant difference between the three suicidal groups on any of the seven variables.

The depressed-high risk group had remained significantly less than the non-suicidal group on 5/7 variables (AVSI, ADSI, AVAT, VASCA,

VASCB), although this difference may be accepted only tentatively in relation to three (ADSI, AVAT, VASCA). It had become not significantly different on two variables (%ADAT, VASCC).

The modelled group, was significantly less than the non-suicidal group on only two variables (AVSI, VASCC) at the second interview. It had become not significantly different on 3/7 (AVAT, VASCA, VASCB), had remained not significantly different on 2/7 (ADSI, %ADAT), and had remained less on 2/7 (AVSI, VASCC). Again the significant group difference in relation to VASCC must be treated with caution.

The operant-low risk group was significantly less than the non-suicidal group on 1/7 variables (VASCB) and had remained not significantly different from the control group on 6/7 variables.

The results of the analyses of variance of linear trend (See Table 10) revealed significant group differences on two variables (%ADAT, VASCC). On both variables the depressed-high risk group and the operant-low risk group were not significantly different from each other in the degree of linear trend demonstrated. Likewise, the modelled group and the non-suicidal controls were not significantly different from each other on both variables (See Table 11).

Table 10 - Results of Analyses of Variance of Linear Trend by Group.

Dependent Variable	df	Error Mean Square	F	p
AVSI	3, 100	7.16	1.79	NS
ADSI		12.82	1.13	NS
AVAT		2.29	1.16	NS
%ADAT		595.92	5.23	P<.00238
VASCA		14278.52	2.66	NS
VASCB		19765.71	0.32	NS
VASCC		11151.33	7.11	P<.00238

Note. alpha=.00238 is determined by the Bonferroni adjustment .05/21 where 21 tests are used.

Both the depressed-high risk and operant-low risk groups demonstrated significantly greater positive trend than the remaining two groups on VASCC. The depressed-high risk group also showed a greater change than the non-suicidal group on %ADAT.

Examination of the graphed weekly Visual Analogue Scale scores (See Figure 2, and Appendix C for the mean scores on which these are based) indicates that the critical period of change between 1 and 3 weeks post-attempt may have been an artifact of combining groups of individuals describing different patterns of change. It would appear that the operant-low risk group continued to improve throughout most of the period of

study on VASCA and until week four on VASCC. The depressed-high risk group demonstrated steady improvement until week three and, thereafter, showed little increase in scores. The modelled group did not show any clear trend over the period of study. The pattern described by the three groups on VASCB is similar and again shows no clear trend.

Table 11 - Mean Linear Trend demonstrated by the four experimental groups on the dependent variables.

Dependent Variable	Group			
	Non Suicidal	Modelled Suicidal	Operant Suicidal	Depressed Suicidal
%ADAT	-0.31	9.23	17.13	24.78
VASCC	8.83	9.27	126.75	115.94

Note. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

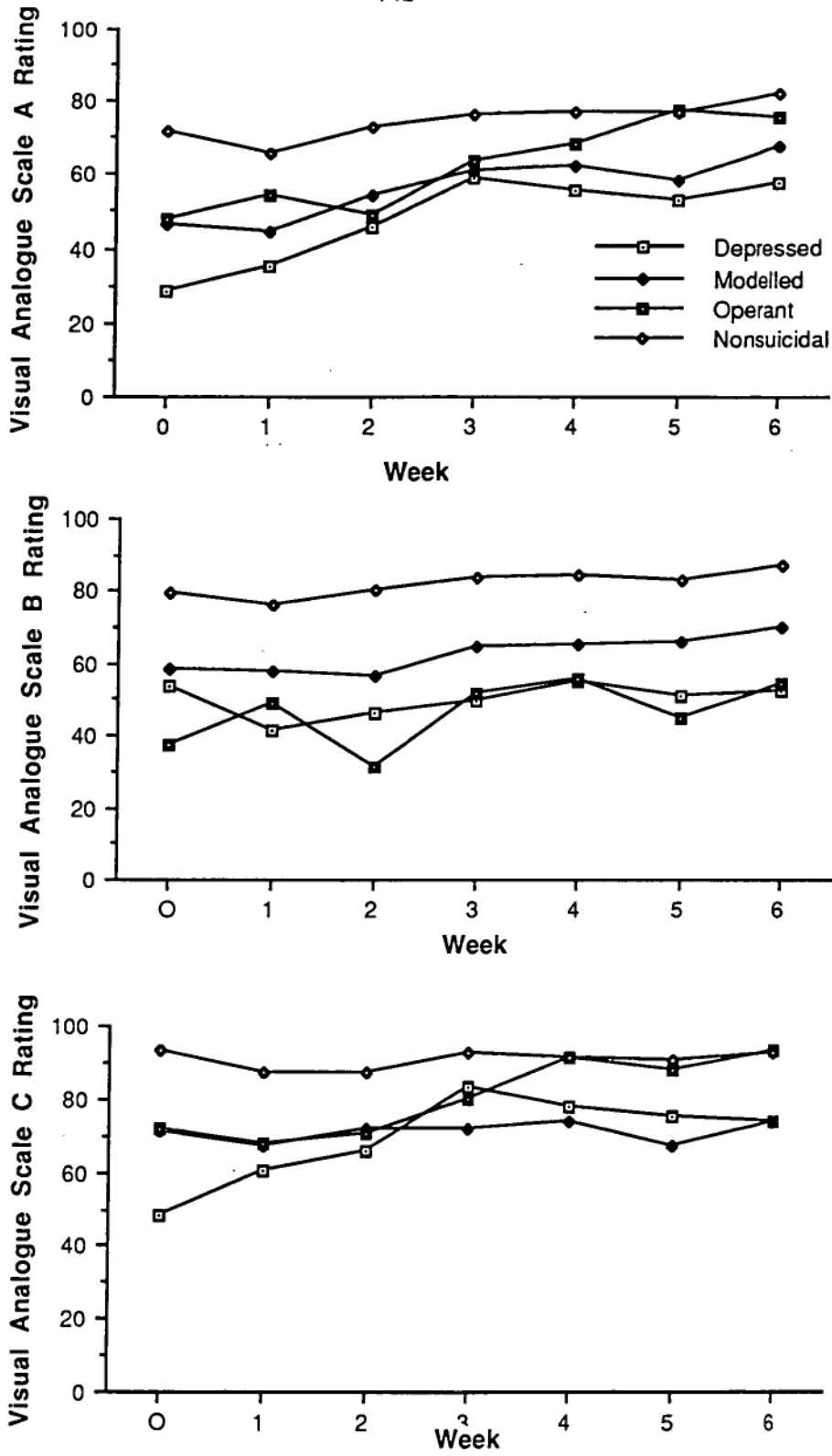


Figure 2 - Group Mean Ratings on Visual Analogue Scales A, B, and C over Period of Study Comparing Cluster Analysis Produced Suicidal Subtypes and Non-Suicidal Controls.

5.3.4 Discussion

The cluster analysis produced three groups, two of which were well defined in terms of identifying characteristics, namely a depressed alienated group with high life endangerment, and an operant, extrapunitive Janus-faced group with low life endangerment. Consistent with earlier typological studies of this kind and a common result with numerical classification methods (e.g. Henderson et al., 1977; Henderson & Lance, 1979), the third group produced by the cluster analysis was residual and not well defined in terms of the present measures. Such an occurrence, as Henderson and Lance (1979) have indicated, may be the result of the failure to enquire about the attributes which would distinguish the group, or represent the masking of finer elements within the residual group which might be revealed by further analysis. Accordingly, the social support findings will not be specifically discussed in relation to this group.

Initially, the depressed-high risk group scored lower than the non-suicidal control group on all measures. After six weeks it was still significantly disadvantaged on all measures except %ADAT (perceived adequacy of attachment relationships) and VASCC (the wish to die). There were significant improvements on both these variables.

Both initially and at the six week assessment, the scores for the operant-low risk group were generally intermediate between the depressed-high risk and the non-suicidal groups and not significantly different from them.

The exceptions to this were that it was significantly lower than the non-suicidal controls on VASCB on both occasions and significantly higher than the depressed-high risk group on ADSI initially. It improved significantly on VASCC but not %ADAT compared with the non-suicidal controls.

The implication of this analysis is that the two suicidal subtypes most clearly identified by the clustering procedure, the depressed-high risk and the operant-low risk suicidal subtypes, do not show great differences in terms of social support and the wish to die. Initially the depressed-high risk suicidal group may be expressing more severe deficits, but the differences between these two suicidal subtypes are not consistently significant. The two groups show similar degrees of improvement over the period of study, but the depressed-high risk group is more clearly distinguished from the controls.

It is possible that a longer follow-up period would have begun to reveal significant differences in the adjustment of the depressed-high risk and operant-low risk subtypes. There is some suggestion of a difference over the 6 week study period in the graphed results of the visual analogue scales (Figure 2) where the depressed-high risk group may be showing a plateauing of scores at an earlier point.

The relevance of social support in the occurrence of suicidal behaviour of both high and low life endangerment, of greater and lesser interpersonal motivation, has been alluded to in an earlier part of this chapter. In view

of the increasing recognition of social support as a multi-faceted concept (e.g. Barrera & Ainlay, 1983; Fiore, Coppel, Becker, & Cox, 1986; Henderson, 1988; Veiel, 1985), it may be argued that the differences between the subtypes described in this study lie in the type of social support deficits of greatest relevance. In the present investigation existing subtype differences in social support may simply not have been tapped by the assessment instruments employed.

Another interpretation of these results is that the cluster analysis in distinguishing between depressed-high risk and operant-low risk attempters may have produced artificial subtypes. Cluster analysis is a statistical method of partitioning an observed sample into disjoint or overlapping homogeneous classes to produce an operational classification. The number of groups may be determined by various methods but none of these have a very high accuracy rate. The problem of deciding the best number of groups into which to partition a set of data must, as Everitt (1972) has pointed out, really be considered unsolved, with user evaluation continuing to be the criterion employed. Without some method of validation it could be argued that any "groups" produced by cluster analysis may simply represent the extremes of a single distribution.

A commonly employed technique for validating clusters is to assess their predictive validity with respect to variables not used in producing them (Everitt, 1975). Examination of subtype differences in social support constitutes such a test. Therefore, the failure to consistently identify

distinctions between the depressed-high risk and operant-low risk suicidal groups argues against their validation as subtypes of the suicidal population, despite the parallel between the groups identified in this study and those described by earlier writers (Henderson et al., 1977).

Further, a number of writers hold the view that the subtypes defined by techniques of multivariate analysis consist of such complex constellations of diverse variables that they are of little value clinically in their present form (Adam, 1985; Hawton, Osborn, O'Grady, & Cole, 1982). In this analysis a sizable proportion of the sample was allocated to a large residue cluster where the only statistically significant positive characteristic was a high average score for modelling as a motivation for the attempt. While this group was distinct from the other two clusters in that, like the non-suicidal controls, it showed little relative change in social support over the period of study, the significance of this finding is unclear while the identity of the group remains obscure.

The choice of variables for inclusion in this analysis was based upon their apparent clinical relevance. However, a typology weighted so heavily with variables concerned with self-reported intent for the attempt does have disadvantages. It is Adam's (1985) view that the attempter's stated suicidal intent cannot be relied upon, and that there is a tendency to exaggerate the intention to die and to minimise the manipulative and punitive aspects of the act. Certainly the size of the operant-low risk and more extrapunitive group, in this study, was small. A more objective criterion by which to classify subjects would be desirable.

A number of considerations, mentioned here but discussed in more detail in the next chapter, suggest psychiatric disorder as a variable for further investigation. Routinely assessed, psychiatric disorder forms the basis of a more general classificatory system in which there has been continuing research interest, as exemplified by the developments and revisions of the DSM system (Blashfield, 1984). The suicidal behaviour of the psychiatric patient has been distinguished on a range of variables from those attempters with no psychiatric disorder (Dass, 1977; Lester, 1983; Stengel, 1969a). Further, a consistent, if complex, relationship between psychiatric disorder and social support is indicated by a considerable data from the social support literature (e.g. Henderson, Duncan-Jones, McAuley, & Ritchie, 1978; Pattison & Hurd, 1984; Silberfeld, 1978; Westermeyer & Neider, 1988).

Chapter 6

Psychiatric Disorder, Social Support and Attempted Suicide

6.1 Introduction

This study sought to produce a typology of suicide attempters involving non-overlapping subtypes based on a variable or variables for which there was some theoretical basis for presuming a relationship with social support. Subtypes of this kind, based on clinical, demographic or social attributes have been problematic. Examples such as age, sex, social class, method of attempt, seriousness, and previous suicidal history, have either been of limited prognostic value when considered alone, not particularly amenable to modification, or have been difficult to assess with accuracy or reliability.

A variable less vulnerable to these criticisms, and with an undoubted role in the production of suicidal behaviour is psychiatric disorder. Current recommendations with regard to the clinical management of attempted suicides are that all individuals should have a formal psychiatric assessment (Goldney & Burvill, 1980). It is, therefore, an assessment that is routinely made, with some degree of accuracy and reliability, and its application suggests an established set of management procedures.

Estimates of the number of suicides involving psychiatric disorder have varied widely, depending on the definition of psychopathology (De Catanzaro, 1981), the clinician, and on the treatment facility (McCulloch & Philip, 1972). Nonetheless it has been noted that the majority of completed suicides evidence some psychiatric disorder (Kreitman, 1977). This is true of a smaller proportion of suicide attempters, but psychiatric

symptoms are commonly detected (Davis, 1989; Newson-Smith & Hirsch, 1979; Urwin & Gibbons, 1979). Estimates of the proportion demonstrating psychiatric disorder have ranged from at least one third (Kreitman, 1977) to 70%-90% of those who attempt (Goldney, Adam, O'Brien, & Termansen, 1981; Kreitman, 1981; Urwin & Gibbons, 1979). The lifetime history of psychiatric disorder in a general population sample has been reported to be 2.6 times more frequent in those who had made a suicide attempt than in those who had not (Dyck, Bland, Newman, & Orn, 1988).

It is proposed that the clinical relevance of the relationship between attempted suicide and social support may be clarified by an examination of the relationship between psychiatric disorder, social support, and suicidal behaviour. A range of literatures, detailing the social environment of the psychiatric patient, the characteristics of the psychiatric patient who engages in suicidal behaviour, and the findings of a few direct comparisons of the psychiatric and the non-psychiatric suicidal individual, will be briefly reviewed. It is suggested, on the basis of this review, that there will be differences in the significance of social support in the occurrence of attempted suicide for the individual with and without a psychiatric disorder. Most aspects of this study have been reported elsewhere (Hart & Williams, 1988).

The social environment of the psychiatric patient has been extensively documented in other literatures. It has been characterised by its small size (Pattison & Hurd, 1984; Silberfeld, 1978; Westermeyer & Neider,

1988), proportionately fewer close relationships (Henderson et al., 1978), fewer voluntary or friendship relationships (Henderson et al., 1978; Pattison & Hurd, 1984; Tolsdorf, 1976), less time spent by the patient with significant others (Pattison & Hurd, 1984; Silberfeld, 1978) and proportionately more affectively unpleasant ties with their significant others (Henderson et al., 1978).

Comparisons of the psychiatric patient who engages in suicidal behaviour with the non-suicidal psychiatric patient have emphasised the greater personal and social difficulties experienced by the suicidal individual. Attempted suicide has been associated with less fear, but greater feelings of depression and aggression (Conte & Plutchik, 1974). A trend towards more dysfunctional attitudes (as measured by the Dysfunctional Attitudes Schedule) in former psychiatric patients with a history of a suicide attempt, irrespective of former diagnosis, when compared with those with no suicidal history, has been reported (Schrader, Gibbs, & Harcourt, 1986). Completed suicides from the psychiatric patient population have been rated more highly than their non-suicidal counterparts on measures of dependence and immaturity (Berglund, Krantz, Lundqvist, & Therup, 1987), and on a personality item concerned with sensitivity and brittleness (Berglund & Nilsson, 1987).

Such comparisons have identified a number of factors, associated with more severe or prolonged psychiatric disorder, that could be linked with subsequent suicide (Barraclough & Pallis, 1975; Goldney, Positano, Spence, & Rosenman, 1985; Hoffmann & Modestin, 1987; Roy, 1982a,

1982b, 1983). A range of social or demographic factors have also been found to differentiate the psychiatric patient who later completes suicide from the one who does not. Factors such as living alone, being unemployed, unmarried, or experiencing a poor or broken marriage (Barraclough & Pallis, 1975; Myers & Neal, 1978; Roy, 1982a, 1982b, 1983) have suggested the relative impairment of the social environment of the suicidal psychiatric patient. Two investigations, in which few differences in social factors were found (Goldney et al., 1985; Hoffmann & Modestin, 1987), employed relatively small samples of mixed diagnostic groups, and did not document follow-up experiences other than treatment which might be likely to impact on the probability of suicide.

The recent loss of close friends and social roles has figured prominently as a precipitant of completed suicide in at least one investigation (Conroy & Smith, 1983). Occurrence of the act in 95% of the sample of psychiatric patients examined by Conroy and Smith (1983) was judged to be related to significant "family" loss issues, including loss of institutional family in 26% of the cases. Loss included increased loneliness, separation, rejection, and isolation.

In relation to attempted suicide, comparisons between the suicidal and non-suicidal psychiatric patient have identified family instability during childhood as a social risk factor for the behaviour (Bronisch & Hecht, 1987; Conte & Plutchik, 1974). Similarly, reports of a poor or broken marriage (Birtchnell, 1981), greater social dysfunction (El-Gaaly, 1974) and the recent loss of close friends and social roles (Conte & Plutchik,

1974) have distinguished the psychiatric patient who makes a suicide attempt from the non-suicidal patient. Comparative studies of the social sequelae of the attempt have not been considered.

It should be noted that the findings in relation to these issues lack uniformity. The results in studies which failed to report group differences in family history variables (Birtchnell, 1981; Woodruff, Clayton, & Guze, 1972) in present social functioning, available social support, or precipitating life events (Bronisch & Hecht, 1987) could be attributed to differences in the type of early family experiences examined (Birtchnell, 1981), the diagnostic groups included, the degree of control for between group differences in psychiatric diagnosis (Bronisch & Hecht, 1987; Woodruff et al., 1972), and the measures of social functioning employed (Bronisch & Hecht, 1987).

These descriptions of the behaviour and circumstances of the suicidal psychiatric patient suggest little that would distinguish it from the suicidal behaviour of other attempters. However, a number of differences have been noted. It is considered that those with a psychiatric disorder or a history of psychiatric treatment tend to make more life endangering attempts, and are more likely to repeat (Adam et al., 1983; Kotila & Lonnqvist, 1987; Kreitman, 1977; McCulloch and Philip 1972; Morgan et al., 1976; Stern, Mulley, & Thibault, 1984). This must be qualified to some extent by specific diagnosis, with high lethality linked to depressive disorders (McHugh & Goodell, 1971) and repetition associated with diagnoses of personality disorder or of alcoholism (Kreitman & Casey, 1988).

There is some evidence that the precipitants, motivations, and functional significance of suicidal behaviour vary as a function of psychiatric disorder (Stengel 1969a). It has been suggested that those with a depressive illness who engage in suicidal behaviour invariably express the wish to die, that suicide in schizophrenia is associated with a feeling of impending disaster or guilt, that the appeal function of suicide is more apparent in personality disordered and reactive depressive attempters, and that loss of love objects is thought to play a greater role for the neurotic individual or those with no psychiatric disorder (Dass 1977; Stengel, 1969a). However, the basis of these speculations has been clinical analysis in what are clearly preliminary investigations and no firm conclusions have been reached.

There are few examples of a direct comparison of the social environment of the suicidal psychiatric patient and other suicidal individuals. Those available are generally concerned with completed rather than attempted suicide and have frequently employed indirect indices from which the status of the suicidal individual's social environment must be inferred. The findings reviewed, therefore, are not clearly indicative of greater social dysfunction by either group.

A comparison of completed suicides with and without previous psychiatric contacts by Kraft and Babigian (1976) revealed few differences. However, marital and family problems were about twice as common in the group with no previous psychiatric contacts, while more of the psychiatric suicides were likely to have been chronically unemployed

and unemployed at the time of their death. Schizophrenic suicides were reported to be younger (Virkkunen, 1974; Winokur & Tsuang, 1975) and more often single (Virkkunen, 1974), while alcohol abusing suicides were more aggressive towards others and had a poorer work record (Achte & Lonnqvist, 1979) than other suicides. Alcohol abusing attempters have been reported to be less assertive and more easily frustrated than other attempters (Feurerlein, 1979). As noted in an earlier chapter, Lukianowicz (1975) found that the achievement of interpersonal gain following the attempt was less apparent where attempters were found to have genuine psychiatric disorder or serious personality disorder.

The aim of this analysis is to describe the social support of suicide attempters with and without a formal psychiatric disorder, and to assess the pattern of social support variables in the weeks following the attempt. It is argued that, at the time of an attempt suicide attempters will be disadvantaged relative to non-suicidal individuals, and that attempters with a formal psychiatric disorder will differ from those without a disorder in the following ways:

- (i) they will report more limited social support;
- (ii) they will report higher levels of dissatisfaction with that support; and
- (iii) and they will evidence less change in the above variables in the weeks following the attempt.

6.2 Method

The initial sample of 52 suicide attempters was subdivided on the basis of the presence of formal psychiatric disorder, determined on presentation, during a standard psychiatric assessment carried out by hospital psychiatric staff. The primary diagnosis based on DSM-III criteria given at this time was recorded for the purposes of the study. Where subjects had a previous psychiatric history, records of previous diagnoses were checked, but no major discrepancy between earlier and current primary diagnosis was revealed for any subject. A check of the records of the small proportion (8/27) of non-psychiatric attempters with a history of previous contact with psychiatric services did not reveal earlier episodes of psychiatric disorder but rather contact as a result of previous suicide attempts or situational crises.

Within the sample of 52 suicide attempters, 25 individuals were given some formal psychiatric diagnosis, while 27 individuals had no psychiatric diagnosis. Of the former group, 12 were diagnosed as personality disorders, 6 as drug or alcohol dependent, 2 as affective disorders, and 5 were variously classified within the DSM-III diagnostic categories of anxiety, somatoform, or dissociative disorders. It is important to note that even within the psychiatric group, reasons given for the attempt often related to interpersonal or environmental crises or stressors.

6.3 Results

6.3.1 Method of Analysis

For each of the seven dependent variables, analysis involved comparison of the three groups at the initial and at the follow-up interview. Group differences in linear trend, that is, group differences in the degree of change over time within each group, were also examined. This was undertaken in view of the fact that a significant difference immediately after the suicide attempt followed by a non significant difference after six weeks does not constitute sufficient evidence of a significant change.

The analysis of change over time involved:

- (i) computation of a measure of linear trend for each variable; and
- (ii) one-way analysis of variance of linear trend by Group, with Tukey Tests, to indicate whether or not the three groups differed in degree of linear trend, as in the analyses in the previous chapter.

As before, the Bonferroni corrected significance level of .00238 was used to assess the significance of the F tests.

6.3.2 Main Findings

The results of one-way analyses of variance (See Table 12) indicated significant group differences on all seven dependent variables at the first interview, and on all but %ADAT at the second interview.

Table 12 - Results of One-Way Analyses of Variance Comparing Psychiatric and Non-Psychiatric Attempters and Non-Suicidal Controls at Initial and Follow-Up Interviews.

Dependent Variable	df	Error Mean Square	F	p
Interview 1				
AVSI	2, 101	7.85	23.98	p<.00238
ADSI		14.45	9.70	p<.00238
AVAT		2.67	10.85	p<.00238
%ADAT		645.43	6.50	p<.00238
VASCA		607.20	21.02	p<.00238
VASCB		823.85	10.63	p<.00238
VASCC		762.04	15.27	p<.00238
Interview 2				
AVSI		8.75	20.67	p<.00238
ADSI		13.33	11.13	p<.00238
AVAT		2.71	10.19	p<.00328
%ADAT		641.99	1.71	NS
VASCA		529.95	20.63	p<.00238
VASCB		713.63	17.49	p<.00238
VASCC		582.02	18.51	p<.00238

Note. alpha=.00238 is determined by the Bonferroni adjustment .05/21 where 21 tests are used.

Subsequent Tukey tests (See Table 13) at the .05 significance level indicated that at the first interview the psychiatric suicidal group scored significantly less than non-suicidal controls on all seven variables, while

the non-psychiatric suicidal group scored less than controls on six out of seven variable (not ADSI). There was no significant difference between the two suicidal groups on six out of seven variables, the exception being AVSI.

Table 13 - Group Means and Standard Deviations on Indices of Social Support and the Wish to Die at Presentation and after Six Weeks.

Dependent Variable	Group					
	Psychiatric Suicidal		Non-Psychiatric Suicidal		Non-Suicidal Control	
	M	SD	M	SD	M	SD
Interview 1						
AVSI	4.52	(2.62)	7.04	(3.22)	9.19	(2.66)
ADSI	8.16	(3.85)	10.22	(4.64)	12.17	(3.27)
AVAT	4.28	(1.57)	5.00	(1.59)	6.06	(1.69)
%ADAT	54.24	(30.19)	59.96	(30.16)	74.71	(19.64)
VASCA	36.36	(29.47)	44.15	(28.46)	71.25	(19.52)
VASCB	55.80	(35.64)	51.63	(32.64)	79.42	(22.15)
VASCC	60.44	(38.54)	66.44	(35.09)	93.17	(13.51)

			Interview 2			
AVSI	5.28	(3.21)	8.96	(2.86)	9.87	(2.88)
ADSI	8.72	(4.83)	12.59	(3.13)	12.71	(3.23)
AVAT	4.48	(2.24)	6.07	(1.11)	6.23	(1.54)
%ADAT	66.36	(34.04)	79.22	(17.39)	74.40	(23.92)
VASCA	47.96	(31.86)	81.52	(21.38)	82.08	(18.41)
VASCB	48.36	(38.73)	73.56	(29.45)	86.81	(16.29)
VASCC	59.12	(41.52)	93.07	(17.55)	92.65	(13.58)

Note. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

At the second interview the psychiatric suicidal group continued to score significantly less than the non-suicidal controls on all variables except %ADAT, and now also scored significantly less than the non-psychiatric suicidal group on these same six variables. There was no significant difference between the non-psychiatric suicidal group and the non-suicidal group on any of the seven variables

Therefore, in general there was no significant difference between the two suicidal groups, who both recorded lower scores than non-suicidal

controls, at the initial interview. At the second interview, the non-psychiatric suicidal group and the non-suicidal control group did not differ significantly, with both scoring significantly higher than the psychiatric suicidal group.

However, the analysis undertaken was not sufficient to show that the non-psychiatric suicidal group demonstrated a greater degree of change than the other two groups over the period of study. In order to demonstrate this, it was necessary to calculate a measure of linear trend for each variable and to demonstrate that the degree of positive linear trend was greatest for the non-psychiatric suicidal group.

Significant group differences in mean linear trend were indicated by one-way analyses of variance (See Table 14) on VASCA, VASCB, and VASCC; that is, significant group differences in the degree of change over time were shown on these variables using the Bonferroni adjusted significance level. Group differences in trend significant at the .05 level were revealed on AVAT and %ADAT.

Table 14 - Mean Linear Trend Analyses of Variance in Relation to Psychiatric and Non-Psychiatric Suicide Attempters and Non-Suicidal Controls.

Dependent Variable	df	Error Mean Square	F	p
AVSI	2, 101	7.17	2.10	NS
ADSI		12.47	2.67	NS
AVAT		2.19	3.64	p<.05
%ADAT		609.08	6.10	p<.05
VASCA		11548.52	16.25	p<.00238
VASCB		16960.95	8.32	p<.00238
VASCC		10803.50	12.12	p<.00238

Note. alpha=.00238 is determined by the Bonferroni adjustment .05/21 where 21 tests are used.

The psychiatric suicidal group and the non-suicidal control group did not differ significantly in the degree of positive linear trend demonstrated on any of the five variables examined (See Table 15). The non-psychiatric suicidal group demonstrated significantly greater positive trend than the psychiatric suicidal group on the three visual analogue scales, and significantly greater positive linear trend than the non-suicidal group on all five variables. The group differences in relation to AVAT and %ADAT must be treated with caution however, as they did not reach the Bonferroni adjusted significance level.

Table 15 - Mean Linear Trend Demonstrated by Indices of Social Support and the Wish to Die, by Group.

Dependent Variable	Group					
	Non-Suicidal Control		Psychiatric Suicidal		Non-Psychiatric Suicidal	
	M	SD	M	SD	M	SD
AVAT	0.17	(1.17)	0.20	(1.98)	1.07	(1.49)
%ADAT	-0.31	(19.11)	12.12	(31.33)	19.26	(27.26)
VASCA	58.73	(75.30)	42.16	(133.84)	189.52	(131.36)
VASCB	39.85	(86.81)	-27.80	(159.36)	119.15	(166.32)
VASCC	8.83	(45.90)	2.80	(160.87)	121.19	(118.09)

Note. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

The pattern of this change over time for the three Visual Analogue Scales is presented in Figure 3 and the group means on which this is based can be found in Appendix C.

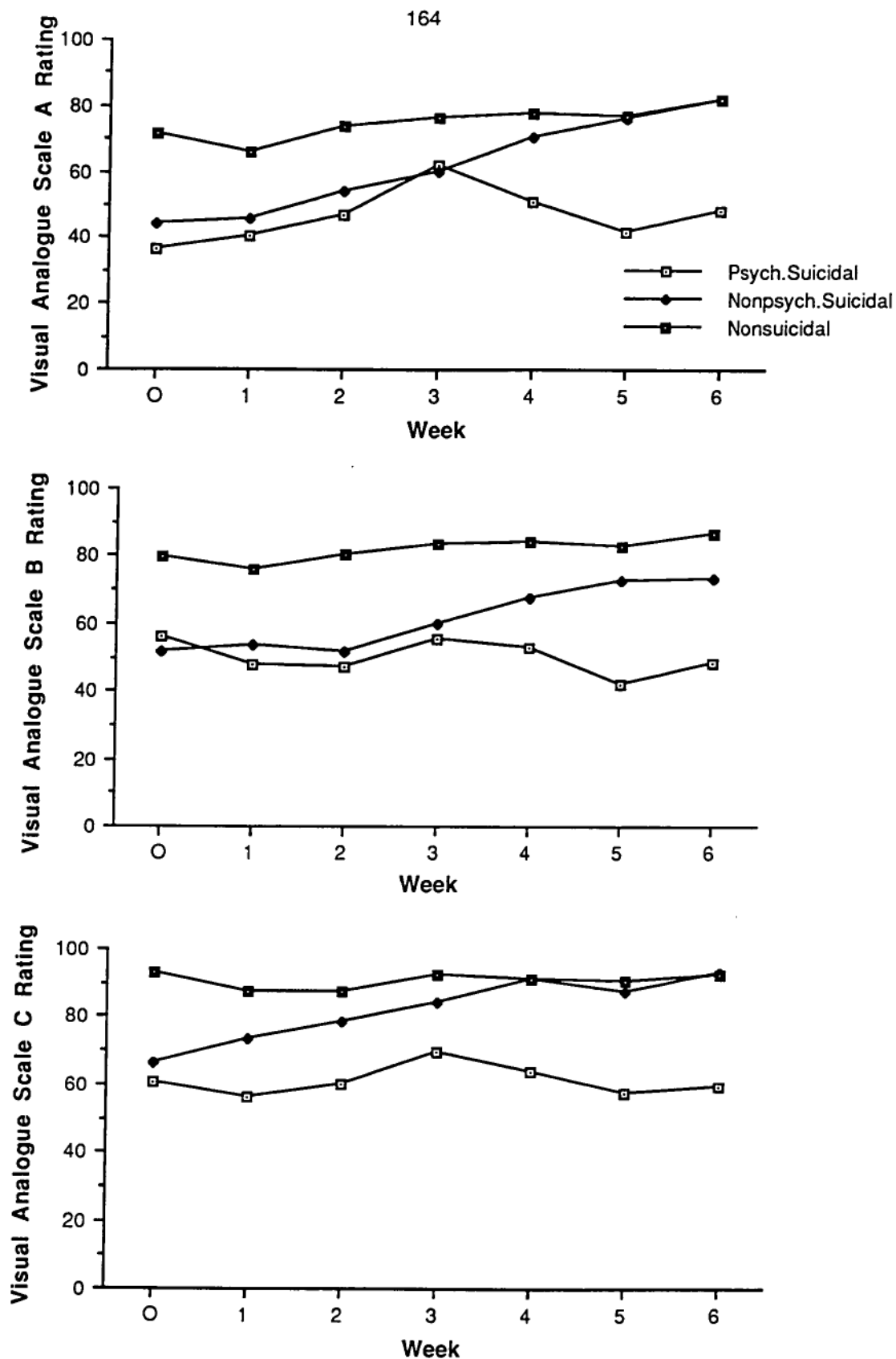


Figure 3 - Group Mean Ratings on Visual Analogue Scales A, B, and C over Period of Study Comparing Psychiatric and Non-Psychiatric Suicidal Subtypes and Non-Suicidal Controls.

6.4 Discussion

In summary, the findings of this analysis are as follows:

- (i) Initially responses by the two groups of suicide attempters did not differ significantly;
- (ii) The psychiatric suicidal group initially reported greater social support deficits and a greater wish to die than the non-suicidal control group, and generally continued to do so at follow-up. It was not significantly different in trend from the control group on any of the measures reported and indeed showed smaller change on most of the measures;
- (iii) The non-psychiatric suicidal group was also initially disadvantaged relative to the non-suicidal control group in terms of social support, and reported greater a wish to die. However, on most variables (AVAT, %ADAT, VASCA, VASCB, and VASCC) this group improved significantly to become comparable with the non-suicidal controls;
- (iv) In relative terms the non-suicidal controls showed minimal change over the period of study;
- (v) Improvement was most clearly demonstrated on the more subjective measures, concerned with the degree of satisfaction with circumstances in general (VASCA), the relationship with one's most significant other (VASCB), and the strength of the wish to die (VASCC). Change relating to perceived adequacy of close attachments (%ADAT) and availability of attachments was much less certain (AVAT); and
- (vi) Examination of the graphs of scores on the three Visual Analogue Scales suggests continuing improvement by the non-psychiatric suicidal group, and minor improvement to a peak at three weeks post-attempt followed by deterioration for the psychiatric suicidal group.

A range of interpretations of these results may be made. One proposition is that the self-reported social support deficits of the psychiatric suicidal group are unrelated to their attempts, but that both suicidal behaviour and support deficits are an expression of psychiatric disorder.

The potential for distorted perception of social environment as a result of affective disturbance has been discussed by Henderson (Henderson et al., 1978), who concluded that if such a distortion effect was operating on their data it did so in no systematic fashion. If systematic distortion does occur, research indicates that it is more likely to occur in the depressed subject (e.g. Beck, 1967). Review of the subjects employed in this investigation indicated that no more than eight percent of the sample received a formal psychiatric diagnosis of Affective Disorder. Nonetheless, assessment of the level of symptom distress experienced by the subject and its impact on self-reported social support is clearly indicated in further investigation of the relationship between attempted suicide and social support.

Another interpretation of these findings is that the psychiatric suicidal group may have inhabited a less extensive social network where there is a decreased probability of interpersonal reaction to the act. This proposition is not clearly supported by the results of the initial interview.

On most variables there was no difference between the two groups at the initial interview. In relation to the two variables which most directly addressed the issue of availability, AVSI and AVAT, the results were

inconsistent. While the psychiatric suicidal group scored significantly less than the non-psychiatric group on AVSI, there was no difference between the groups on AVAT. Interpretation of the AVAT measure is problematic for it requires only a single relationship to be available for the respondent to record a positive score on each item. It does not provide a measure of the actual number of close supportive relationships available to an individual. Inclusion of such a measure in further investigation of this issue is indicated.

Related to the above proposition, it may be that the psychiatric attempters' lives are so chaotic and disrupted that the attempt is of minimal consequence. Increased incidence of stressful life events has been correlated with the onset of psychological disorder in studies of schizophrenics, depressives and suicide attempters (Pattison & Hurd, 1984). However, attempts to distinguish between the severity and pattern of life event stress experienced by the suicide attempter and the non-suicidal psychiatric patient (Harder, Strauss, Kokes, Ritzler, & Gift, 1980; Paykel, 1976), and the psychiatric patient who does or does not subsequently exhibit suicidal behaviour (Slater & Depue, 1981), give rise to no clear expectation of greater disruption in one or other groups of attempters in this study. The significance of the act in the attempter's interpersonal background and, therefore, the probability of a response from the interpersonal environment might be gauged by concomitant assessment of recent life event stress. Such an assessment, using an established measure of recent life event stress, is recommended in further investigation of the relationship between these variables.

It is possible that the psychiatric suicidal group generally made less serious attempts than the non-psychiatric suicidal group. Such a proposition is not only inconsistent with much of the literature, but also is not consistent with data on risk to life by members of the sample for this study.

Subjects participating in this study could be classified as having made serious or non-serious attempts on the basis of their responses to items on the Demographic and Background Data Checklist concerned with the predicted untreated outcome of the attempt and the degree of life endangerment of the act. An attempt was considered medically serious if the predicted untreated outcome was certain or probable death. An attempt was considered psychiatrically serious if scores on the index of life endangerment were greater than or equal to the median value. Subjects whose attempts were either medically or psychiatrically serious or both, were classified as serious, while the remainder were considered not serious. The frequency with which psychiatric attempters in this sample made serious attempts ($n=16$) was not significantly different ($\chi^2(1)=0.11$, $p>.05$) from the frequency with which non-psychiatric attempters did so ($n=15$).

The relative absence of reported support change for the psychiatric suicidal group may also be attributable to hospitalisation, which delays the individual's return to and experience of his/her social environment. In this study the psychiatric suicidal group, with 23 subjects hospitalised, was significantly more likely to be hospitalised ($\chi^2(1)=5.78$, $p<.05$) than the non-psychiatric group, with only 16 subjects hospitalised.

Members of the former group were also hospitalised for a significantly longer period ($t(37)=2.64, p<.05$). The mean period of hospitalisation for the psychiatric suicidal group was 13.7 days ($SD=12.64$) and 5.0 days ($SD=4.29$) for the non-psychiatric suicidal group. However, the degree of trend demonstrated by the psychiatric suicidal group over the first and the last three data points (VASCA; $M1=10.20, M2=-2.84, t(24)=1.27, p>.05$; VASCB; $M1=-8.96, M2=-4.44, t(24)=0.48, p>.05$; VASCC; $M1=-0.48, M2=-4.40, t(24)=0.37, p>.05$) indicated that there was no greater change subsequent to hospital discharge.

A final interpretation of these findings is that the reactivity of the social environment of the chronic patient has diminished. There is some evidence that the patient with a psychiatric history or formal psychiatric diagnosis is more likely to repeat the attempt (Adam et al., 1983; Kreitman, 1977; McCulloch & Philip, 1972), and that with repeated attempts significant others tend to respond with less anxiety for the attempter and in a more punitive fashion (Maxmen & Tucker, 1973; Stengel, 1969a; Wolk-Wasserman, 1985).

Interviews with the partners of suicide attempters immediately subsequent to the act has highlighted their considerable ambivalence about the future of the relationship and strong guilt feelings (Wolk-Wasserman, 1985). Significantly, the partners of first time often neurotic attempters, were withdrawn, insecure, and unwilling to disturb hospital personnel, while partners of those with a diagnosis of alcohol/drug abuse who had repeatedly attempted suicide, were often demanding,

argumentative, with some complaining openly that the attempt has not been successful. Furthermore, the adult children of attempters felt burdened by their responsibility and preferably wanted the hospital to take over.

It could be argued that the network of the psychiatric attempter in this study has experienced the behaviour before and is unwilling to make a positive response to this attempt. The proportion of recidivists (psychiatric group, 17 Ss, non-psychiatric group, 12 Ss, $\chi^2(1)=2.04$, $p>.05$) and of these the proportion of multiple attempters (psychiatric group, 8 Ss, non-psychiatric group, 3 Ss, $\chi^2(1)=0.67$, $p>.05$) in the two suicidal groups was not significantly different. However, the psychiatric group was more likely to have had previous contact with psychiatric services (psychiatric group, 19 Ss, non-psychiatric group, 8 Ss, $\chi^2(1)=9.40$, $p<.05$) and to have expressed suicidal ideation (psychiatric group, 12 Ss, non-psychiatric group, 5 Ss, $\chi^2(1)=3.88$, $p<.05$).

It could also be argued that the psychiatric attempter's network is less able to respond to the attempters' needs at a time of crisis. The striking degree to which the significant others of suicidal psychiatric patients experience psychiatric disorder themselves has been noted (Tishler & McKenry, 1982; Wolk-Wasserman, 1985, 1986). For example, in a sample interviewed by Wolk-Wasserman, (1985) 21/32 partners of suicide attempters had psychological difficulties of their own, nine having previously attempted suicide. Attempters' parents consistently experienced shame and guilt feelings as a result of the attempter's

behaviour, felt inadequate, isolated with the problem, and were fearful for the future.

Consistent with the findings in relation to the psychiatric attempters, the documented improvement in the non-psychiatric suicidal group over time may be related to a range of theoretical interpretations. This improvement provides further evidence of a relationship between social support variables and certain classes of attempted suicide, and underlines the relevance of a range of propositions, such as care eliciting behaviour (Henderson, 1974), the appeal function of the act (Stengel, 1969a), positive gains (Lukianowicz, 1975), and operant positive reinforcement (Bostock & Williams, 1974).

This improvement cannot be attributed to treatment effects subsequent to the act, for while 64% (16 Ss) of the psychiatric suicidal group received treatment over a period of several weeks, only 22% (6 Ss) of the non-psychiatric suicidal group received more than a brief counselling session ($\chi^2(1)=7.65, p<.05$).

The nature of the gains reported raises the issue of whether it is the individual's situation or his/her needs that undergo change.

6.5 Implications for Further Research

The results of this study add weight to the proposition of a relationship between social support deficits and suicidal behaviour, and of the occurrence of short-term interpersonal gains subsequent to an attempt.

The subtypes produced by division of the sample into those with and without a psychiatric disorder showed differences in the changes in adequacy of social support and in the wish to die over the 6-week follow-up. This division appears to be a more profitable typology to pursue in further investigations than that produced by cluster analytic procedures. Table 16 presents a comparative summary of the findings of the three sets of analyses carried out to date.

Table 16 - A Comparison of Findings from First Three Analyses.

Dependent Variable	Analysis		
	First Study	Cluster Derived Typology	Psychiatric Disorder Typology
Initial Differences			
AVSI	sig	sig	sig
ADSI	sig	sig	sig
AVAT	sig	sig	sig
%ADAT	sig	sig	sig
VASCA	sig	sig	sig
VASCB	sig	sig	sig
VASCC	sig	sig	sig

Linear Trend

AVSI	ns	ns	ns
ADSI	ns	ns	ns
AVAT	ns	ns	ns trend
%ADAT	sig	sig	ns trend
VASCA	ns trend	ns	sig
VASCB	ns	ns	sig
VASCC	ns trend	sig	sig

Final Differences

AVSI	sig	sig	sig
ADSI	ns trend	ns trend	sig
AVAT	ns trend	ns trend	sig
%ADAT	ns	ns	ns
VASCA	sig	ns trend	sig
VASCB	sig	sig	sig
VASCC	ns trend	ns trend	sig

Essentially these group differences in relation to psychiatric disorder raise the issue that different emphases in clinical management may be required depending upon the group. While this matter has not been widely discussed in the literature, the management of suicidal subtypes has been raised elsewhere (Hart & Williams, 1988).

Additional issues requiring further investigation in view of the findings of this study include the nature of the interpersonal gains reported by the non-psychiatric suicidal group, and the factors which contribute to the differences between the two suicidal subtypes identified. The potential

for distortion of self-report due to affective disturbance associated with psychiatric disorder or indeed the attempt itself, may have contributed to group differences in support in this study. Assessment of the level of this disturbance is required in any further investigation of the relationship between attempted suicide and social support.

The proposition that the suicidal subtype differences reported in this study could be attributed to the psychiatric suicidal group having initial access to a smaller number of supportive bonds was not adequately addressed by the indices provided by the ISSI. Similarly, the attribution of group differences in support change to the different importance placed upon the act as a result of interpersonal backgrounds of varying degrees of disruption could not be assessed. It is, therefore, considered essential that further investigation of the relationship between social support and attempted suicide include some assessment of the actual number of supportive bonds available to an individual and some measure of recent life event stress.

Chapter 7

A Replication Study; with Consideration of the Influence of Life Event Stress, Personality and Symptom Distress

7.1 Introduction

A primary purpose of this study was to replicate the findings of social support differences between the two suicidal subtypes examined in the previous study. Within this framework it was considered essential to address some of the issues which have been highlighted by more recent developments in the study of social support. Analysis of the data provided by this investigation is, therefore, presented in two parts. The first is concerned with between and within-group differences in social support. The second considers the effect on these relationships of a range of potentially confounding variables.

As part of the replication study some refinement of the relationship between social support and suicidal behaviour, suggested by earlier analyses in this series, was pursued. In an attempt to achieve a more comprehensive assessment of social support an additional interim interview was included in this study some two weeks after the attempt. Potential limitations of the social support measures previously employed, discussed in more detail later in this chapter, suggested the inclusion of an additional measure of social support.

In view of a considerable literature, to be briefly reviewed in this chapter, detailing social support deficits across a range of disorders, the specificity of identified social support deficits and changes was questioned. The inclusion of a non-suicidal psychiatric control group was, therefore, indicated in the present investigation.

A brief review of issues which have recently emerged from the social support literature and which have relevance for an examination of the relationship between suicidal behaviour and social support will also be presented. The principal issues of relevance in this largely theoretical debate concern:

- (i) the role of factors such as recent life event stress or personality traits in moderating or confounding the relationship between social support and disorder;
- (ii) the direction of causality in the relationship between social support and disorder, if indeed the relationship is a causal one;
- (iii) the role of disorder in distorting self-report and, therefore, the assessment of social support;
- (iv) and the locus the changes in social support reported after the attempt, whether intrapersonal or interpersonal.

In order to address some of these issues the present investigation, therefore, included a measure of recent life event stress, of psychological symptom distress, and a measure of one aspect of personality. The influence of these variables on identified between and within group differences in social support was assessed.

7.1.1 Social Support and Non-Suicidal Psychiatric Patients

There is considerable empirical support for the proposition that less severe psychiatric disorders, such as neurotic depression and anxiety

states, are associated with social networks which are reduced in size and in which the quality of interaction is impaired (e.g. Brugha et al., 1982; Henderson et al., 1978). For example, the observation by Brown and his colleagues (Brown, Bhrolchain, & Harris, 1975) that depressed women tend to lack a close confiding relationship, was confirmed by Miller and Ingham (1976) in a general practice sample presenting with psychological symptoms. Less intimate relationships were also found to afford some protection against symptom onset in the latter study, possibly because few of this sample were suffering from severe psychiatric disorder. Similarly, in a comparison of general practice and psychiatric outpatients, Silberfeld (1978) found that the psychiatric patient's less extensive social network and diminution of contact applied to all relationships.

In a control group study of individuals referred to a psychiatric outpatient clinic, Henderson (Henderson et al., 1978) found that those with neurotic complaints spent the same amount of time with their primary group as general practice controls, but more of that time had been affectively unpleasant. They had fewer voluntary or friendship relationships, proportionately fewer close relationships, and the majority considered that their principal attachment figure gave them less support than they needed. A replication study by Brugha (Brugha et al., 1982) for the most part confirmed Henderson's results for neurotic patients but not for those with retarded depression.

Similarly, the depleted social environment of the schizophrenic individual with its weakened, often asymmetric bonds is well documented (Cohen & Sokolovsky, 1978; Sokolovsky, Cohen, Berger, & Geiger, 1978; Tolsdorf, 1976). The focus on the structural aspects of the social environment by Tolsdorf (1976) showed that first admission schizophrenic patients reported fewer intimate relationships with network members than hospitalised medical patients, in a network more heavily dominated by family members, and where powerful network members occupied more controlling and dominant positions. Further, the network analysis studies of Pattison and Hurd (1984) have outlined a set of structural network features common to individuals with psychotic disorders and distinct from those of both neurotic and non-patient groups. There was, for example, reported to be little connection between members of the neurotic individual's network, while members of the psychotic type network were almost totally interactive with each other, in a system generally closed to the larger community.

It is clear from this brief review that social support deficits encompass a range of diagnostic groups, and the effect of social support may not be uniform. As Henderson and Brown (1988) have indicated "An effect may tend to hold for one but not another disorder ... for certain kinds of social support but not others ... and effects may interact in complex ways..." (p. 73). It cannot be claimed with any certainty, therefore, that the findings reported in previous chapters reflect social support characteristics unique to the suicide attempter.

A comparison with bearing on this issue, between the social environment of the suicide attempter, particularly the non-psychiatric suicide attempter, and the non-suicidal psychiatric patient is not commonly reported. The findings of a second relevant comparison, between the psychiatric patient who engages in suicidal behaviour and the one who does not, were considered in the previous chapter. They were suggestive of a relative impairment in the social environment of the psychiatric patient who attempted (Birtchnell, 1981; Bronisch & Hecht, 1987; Conte & Plutchik, 1974; El-Gaaly, 1974) or completed suicide (BarracloUGH & Pallis, 1975; Conroy & Smith, 1983; Myers & Neal, 1978; Roy, 1982a, 1982b, 1983).

A preliminary attempt to compare these groups on a measure more directly indicative of available social support has been recently reported by Mullis and Byers (1987). Assessment of suicidal and non-suicidal male psychiatric inpatients revealed no differences in social support, as measured by the Norbeck Social Support Questionnaire. Significantly, this investigation was concerned with the assessment of social support only at the time of the attempt, and employed a heterogeneous suicidal group, comprising both attempters and ideators. In view of the findings of the previous chapter, the exploration of group differences in the pattern of support over time is of some interest, and the importance of separating ideators and attempters is suggested.

In the present investigation the addition of a non-suicidal psychiatric control group was considered essential in order to assess whether social support deficits could be attributed to suicidal behaviour as distinct from

psychological distress. Particular care was taken to avoid selection of individuals with Affective Disorders because of their well documented cognitive distortions (e.g. Beck, 1967). Those with Anxiety Disorders were chosen instead, in part because of their relative availability.

7.1.2 The Relationship between Disorder and Social Support

During the last decade there has been an enormous increase in research on the social support-disorder association. Much of this effort has represented an attempt to more clearly specify relevant concepts, and has been a recognition of the complexity of the relationships and of the methodologies required to address them (e.g. Cohen & McKay, 1984; Thoits, 1982; Veiel, 1985). It has become evident that social support has many components and the identity of those which are effective in protecting against stressors and the types of psychiatric disorder against which they are active remains to be determined (e.g. Barrera & Ainlay, 1983; Fiore et al., 1986; Veiel, 1985).

Most research has been concerned with the aetiological role of social support. While the present study is concerned with making inferences about the attempter's social environment prior to the act, a central focus of this investigation is the assessment of social support following the attempt, with the implications this has for an operant formulation of the behaviour. Much less is known about the impact of psychiatric symptoms on social support although there has been some speculation about the care-eliciting function of psychiatric disorders (e.g. Henderson, 1974).

In one of the few published empirical studies addressing this issue, Blazer (1983) found that elderly persons identified as depressed in a community survey actually had had an increase in their social interaction when followed up 30 months later. In another study concerned with the elderly living in the community, subjects with more symptoms of depression reported a reduction in consistent supports while those who had a physical illness reported more supports (Grant, Patterson, & Yager, 1988). The observation that suicidal behaviour may be followed by positive changes in the social environment of the attempter (e.g. Hart & Williams, 1988; Lukianowicz, 1975; Rubenstein et al., 1958; Stengel & Cook, 1958; Williams & Hanson, 1976) may represent a more specific instance of this general proposition.

7.1.3 Confounding Variables

Conceptualisations of the social support-disorder relationship have rapidly expanded from simple models involving one or two variables to complex and interactive representations (Mitchell & Trickett, 1980; Pearlin, Lieberman, Menaghan, & Mullan, 1981). While an impressive body of empirical work has reported a relationship between social support and disorder (e.g. Barerra, 1981; Brown et al., 1975; Henderson, Byrne, Duncan-Jones, Scott & Adcock, 1980; Miller & Ingham, 1976), much of this evidence is based on cross-sectional studies wherein predictors and disorder are assessed at the same time. Cross-sectional designs may reveal relationships between variables but do not provide information on causality. They permit the timing of changes in

support and in disorder to remain indeterminate and do not preclude a range of hypotheses. For example:

- (i) disorder may lead to decreased support;
- (ii) disorder may produce ratings of support that are a function of disturbance rather than an accurate reflection of circumstances; or
- (iii) a third factor, such as social class or personality, or recent life event stress may cause changes in both support and symptomatology (Monroe & Steiner, 1986).

Increasingly it has been acknowledged that the relationship between social support and outcome variables depends on the operationalisation of the support construct (e.g. Cohen & Wills, 1985), and that the method of gathering data, the type of design employed, the control variables taken into account, and the type of disorder studied, can influence the strength of this link (Monroe, 1983). The considerable measurement overlap between variables such as psychological disorder, personality, stress, and social support (Brugha et al., 1987; Cohen & Wills, 1985; Thoits, 1982) has made the role of these factors difficult to determine. The development of measures of social resources that are reliable, uncontaminated by adversity, personality or morbidity, and reflect actual rather than hypothetical social behaviour has only recently begun to receive attention (Monroe & Steiner, 1986).

Psychiatric Disorder and Support

A recent review of the relevant literature (Monroe & Steiner, 1986) finds considerable evidence that the propositions that disorder may lead to

decreased support or may produce inaccurate self-report of the social environment contribute to the overall correlation between social support and psychological disorder. The magnitude of the association between social support and disorder has been shown to diminish as the confounding influence of pre-existing disorder is controlled and several studies (e.g. Monroe, 1982, 1983; Monroe, Bromet, Connell, & Steiner, 1986) have demonstrated that initial symptoms are typically the best predictors of follow-up disorder.

It has been recognised that prospective longitudinal designs, in which the initial sample is re-examined at one or more later points in time reveal more about the development of a disorder (Henderson, 1984). Henderson's work (Henderson et al., 1981), involving respondent based measures, the exclusion of symptomatic individuals at the initial interview, assessment of social support initially, and of disorder at follow-up, represents one approach. Findings based on this approach suggested an association between social support perceived as inadequate by the individual and the subsequent onset of neurotic symptoms under adversity, but not between the availability of support and symptom onset. This result contrasted with the earlier findings based on a clinical sample (Henderson et al., 1978) and on cross-sectional survey data (Henderson, Byrne, et al., 1980).

A different approach has been taken in the Islington study (Brown, Andrews, Harris, Adler, & Bridge, 1986; Brown, Bifulco, Harris, & Bridge, 1986), with its investigator-based ratings and detailed reconstruction of

actual mobilisation of support in response to crises during the follow-up period. This series of investigations revealed that for the single mothers interviewed, negative interactions in marriage and lack of support from some one named as very close were correlated with risk of developing depression in the follow-up year. Active emotional support at the time of first contact for the unmarried was related to reduced risk of later depression. However, positive measures of support at the first contact for the married did not predict less depression, emphasising, the authors suggested, the importance of actual mobilisation of support as opposed to expected crisis support.

It is well established that a proportion of the population of suicide attempters do experience some psychiatric disorder (Goldney et al., 1981; Kreitman, 1977, 1981; Urwin & Gibbons, 1979). Therefore, considerations raised in investigations of psychiatric disorder do have some relevance for the present investigation of the relationship between social support and suicidal behaviour. However, the proposition that suicidal behaviour has determined the nature of the social environment described by the attempter at the time of the attempt is difficult to sustain in all cases. Suicidal behaviour is a relatively rare, multiply determined, discrete event, whose prediction is poor (Daitzman & Levin, 1977). Where no psychiatric disorder is present, it is difficult to validate the impact of suicidal behaviour on the social environment in the same way as psychiatric disorder unless an ongoing state of suicidal intent or a suicidal personality are postulated. Both concepts are without clear support (Lester, 1972, 1983).

The related proposition, that psychiatric disorder may influence the perception or self report of social support, has more general relevance for suicidal behaviour. A relationship between the occurrence of attempted suicide and a state of considerable psychological distress is easily imagined.

The nature of the problem under investigation in this study did not readily lend itself to a prospective design modelled upon Henderson's (e.g. Henderson et al., 1981) work. Nonetheless, awareness that such assessments may be confounded by other factors such as psychiatric disorder or distress makes necessary some assessment of psychopathology at this time.

Life Event Stress

The role of life event stress has been most thoroughly articulated as the stress-buffering hypothesis which suggests that lack of social support has no independent effect in terms of risk of onset of disorder in the absence of a stressor. This proposition enjoys considerable empirical support from both cross-sectional and prospective longitudinal studies (Brown & Harris, 1978; Cassel, 1976; Henderson et al., 1981; Nuckolls, Cassel, & Kaplan, 1972; Wilcox, 1981). However, cross-sectional studies do not preclude alternative hypotheses including the direct effect of life event stress upon disorder regardless of social support (Brown, Andrews et al., 1986), the effect of life event stress upon the structure and supportiveness of social networks by enhancing or depleting them

(Barrera, 1981; Moos & Mitchell, 1982), and the proposition that life event stress may be occasioned by the nature of the social support system or the presence of symptomatology (Brown & Harris, 1978; Tennant, Bebbington, & Hurry, 1981).

Data presented by Slater and Depue (1981) has suggested suicidal risk may be reduced by the action of social support in buffering the impact of exit events, such as divorce, family separation or other losses from the individual's social environment. The significance of biographical factors and of social, psychological, psychiatric, and physical environment factors present at the time of the suicide attempt was noted by Isherwood (Isherwood et al., 1982). However, all except depression were either less important or could be subsumed by the effects of the perceived undesirable consequences of recent life events. It was not the purpose of this study to determine the relative merits of the stress buffering or directly beneficial effects of social support in relation to suicidal behaviour. However, it was clearly of interest to establish whether the identified group differences in social support would be maintained irrespective of the effect of life event stress. For this reason an assessment of recent life event stress was included in the initial assessment of subjects in this study.

Personality

Empirical evidence suggests that personality plays a role in determining individual differences in network size and support quality (Henderson et

al., 1981; Lieberman, 1982; Sarason & Sarason, 1982). Indeed, Henderson (1988) considers that individuals are to a large extent the architects of their social environment. To date in this series of studies, group differences in the changing status of social support, have primarily involved the more subjective measures of perceived adequacy and satisfaction, measures arguably more confounded with personality indices than structural measures of support. It is, therefore, essential in further exploration of the relationship between attempted suicide and social support to assess to the influence of personality on group differences in support.

In Henderson's analysis of the relationship between social support, life stress, personality and disorder (Henderson et al., 1981), the trait neuroticism was the dominant variable in the analysis, predicting 69% of the variance in psychological disorder. Perception of support adequacy added explanatory variance, and while this could be either an expression of how others behaved towards the respondent, or an expression of personality attributes activated by life event stress, Henderson favoured the latter.

A case for the interpretation of Henderson's results as a reflection of actual shortcomings in social support rather than personality factors is made by the results of the Islington study (Brown, Andrews et al., 1986). This study found that negative measures, based on either behaviour or self report, predicted depression equally well, and that there was no difference in perceived helpfulness of unsupportive relationships for

those who did and did not become depressed. Low self-esteem and various indices of lack of support from a core tie at the first interview were associated with a greatly increased risk of depression once a stressor occurred, suggesting that low self esteem and support both contribute to risk of disorder. However, while the presence of both low self-esteem initially and a stressor in the follow-up year was associated with a risk of developing depression three times greater than that associated with a stressor alone, the risk in relation to low self-esteem alone was low and far less than for a stressor alone.

Examination by Andrews and Brown (1988) of a subsample of 150 individuals who took part in the Islington study and among whom practically all the onsets of depression occurred, indicated that personality characteristics such as dependency and attitudinal constraints to support, were not generally associated with increased risk of depression. However, promising leads concerning the role of personality traits in onset of depression did emerge for a small high risk subgroup who had had inadequate early parenting. Most had low self-esteem and appeared to confide in inappropriate and unreliable sources of support at a time of crisis.

The literature has examined a range of personality factors in relation to social support and disorder (Henderson et al, 1981; Johnson & Sarason, 1978; Richman & Flaherty, 1985; Sarason & Sarason, 1982). A number of similar personality traits have been regularly associated with attempted suicide and coincide with the social context of the attempt. Attempters

have been described as poorly integrated, hostile, capable of generating considerable hostility among those around them (Eastwood et al., 1972; McCulloch & Philip, 1972; Paykel & Dienelt, 1971; Vinoda, 1966; Weissman, Fox, & Klerman, 1973), and traits such as immaturity, egocentricity, dependency, anxiety, low tolerance for frustration, impulsiveness (McCulloch & Philip, 1972; Weissman, 1974), introversion (Colson, 1972; Eastwood et al., 1972; Irfani, 1978) and a belief in an external locus of control (Boor, 1976a, 1976b; Williams & Nickels, 1969) have frequently been reported. However, a recent review (Lester, 1983) concludes that few reliable results have been identified.

The conclusion that has been drawn from recent data on this issue is that support and personality are "part of a series of integrated processes rather than antagonistic explanatory concepts" (Henderson & Brown, 1988, p. 83). However, the nature of this role, as a moderator of the relation between support and disorder (Johnson & Sarason, 1978; Kobasa, 1979; Sandler & Lakey, 1982) or as a third variable explaining both support deficits and disorder (Sarason, Levine, Basham, & Sarason, 1983), has remained obscure. It is argued that a potentially limiting factor for this research effort has been the reliance upon a relatively narrow conceptualisation of personality. The commonly employed trait approach has been criticised for what many consider to be its lack of a sound theoretical framework, its inability to accommodate situational factors in the prediction of behaviour, or to address the issues of individual development or change, and its descriptive rather than explanatory nature (Hall & Lindzey, 1978; Pervin, 1984; Phares, 1988a). While not

without its share of weaknesses, another perspective which may be relevant to the occurrence of suicidal behaviour, is provided by social learning theory approaches to personality. The strengths of this approach, relative to trait theory, are to be found in the emphasis on the role of situational factors in the determination of behaviour and, more generally, in its decided research emphasis, a cognitive theme which presents a non-mechanical view of the individual, and its links with methods of behavioural change (Hall & Lindzey, 1978; Pervin, 1984; Phares, 1988a).

As noted previously, a social learning theory approach describes personality in terms of cognitive characteristics which allow behaviour to be responsive to environmental change, and which allow the individual to screen and to influence environmental input (Bandura, 1977; Mischel, 1979). It is proposed that this approach may be particularly relevant to attempted suicide which is a discrete, relatively rare, multiply-determined, and changing behaviour (Kessel & McCulloch, 1966; McCulloch & Philip, 1972; Sifneos, 1966; Stengel, 1969b; Williams et al., 1980) occurring in a population with distinct cognitive characteristics (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979).

Within this theoretical framework, Bandura's (1978, 1982) conceptualisation of self-efficacy has provided a more global and unifying concept, than many of the other cognitive approaches which may be relevant to the occurrence of suicidal behaviour. The concept of self efficacy not only addresses the issue of the individual's cognitions, but to

a greater degree than the other approaches, recognises the influence of the environment on behaviour. It, therefore, encompasses more of the known data about the suicidal individual, his/her dysfunctional cognitions (Arffa, 1983; Ellis, 1986; Neuringer, 1976; Patsiokas et al., 1979), high recent life event stress (Isherwood et al., 1982; Paykel, 1976; Slater & Depue, 1981) and dysfunctional patterns of interaction (Bhagat, 1976; Fawcett et al., 1969; Rosenbaum & Richman, 1970; Williams & Lyons, 1976).

It is of note that the mediation of the effects of confidant support by self-esteem or self-efficacy was indicated by Pearlin (Pearlin et al., 1981) through hierarchical regression analyses and by Husaini (Husaini, Neff, Newbrough, & Moore, 1982), who showed a buffering effect only for subjects classified as low in personal competence. With more specific relevance to suicidal behaviour, Farber (1977) has suggested that the basic personality variable that is rendered defective by inappropriate child-rearing practices is the sense of competence.

The final study in this series, therefore, included an assessment of one aspect of personality, namely the sense of self-competence.

7.1.4 Measurement Issues

The multifaceted nature of social support, and with it the need for multifaceted assessments is now generally accepted (Henderson, 1988). The ISSI attempts to assess some of the many provisions of social relationships on the basis of the scheme outlined by Weiss (1974, 1979,

1982). While this instrument is justifiably considered to a significant improvement on earlier methods of social support assessment such as the use of demographic variables, limitations have been acknowledged (Henderson & Brown, 1988).

The ISSI has been criticised by O'Connor and Brown (1984) for some confounding of feelings of attachment with the actual provision of support, particularly in a crisis. It has been argued, for example, that only three of the eight items of the AVAT (availability of attachment) index assess the actual provision of support. Of the remainder, one relates to a feeling of satisfaction, while four are concerned with feelings of attachment to another. The latter may have little bearing on the support received from that other. Brown (Henderson & Brown, 1988) noting the focus of attachment items on positive feelings toward important others rather than actual behaviour, has proposed that the predictive success of the ADAT (adequacy of attachment) index is attributable to it being a more sensitive indicator than AVAT (availability of attachment) of received support. In the present investigation, therefore, inclusion of an additional measure of the provision of support in relation to close social ties was indicated.

It would also be of interest to determine whether the observed time limited nature of the improvement in social support is true of other measures. In order to examine this issue an additional interview at week two was proposed.

7.2 Hypotheses

Three sets of hypotheses are relevant to this study. The first set, concerned with a replication of the previous study, involves comparisons of suicidal groups with non-suicidal controls. On the basis of the findings of the earlier study it would be expected that for a broad range of social support measures:

- (i) there will be no initial difference between the two suicidal groups on social support and their wish to die, but that both will be less than the non-patient group; and
- (ii) the non-psychiatric suicidal group will show greater improvement over the follow-up period than the psychiatric suicidal group.

The second set of hypotheses is concerned with comparisons of suicidal groups with non-suicidal psychiatric controls. If the deficits and changes outlined are unique to the suicidal population rather than characteristic of other groups of psychologically distressed individuals then:

- (i) initially the two suicidal groups will be significantly different from the psychiatric control group on indices of social support and the wish to die; and
- (ii) the non-psychiatric suicidal group will show greater change than the psychiatric control group on the indices assessed over the follow-up period. Some change might occur for the psychiatric controls as a result of treatment effects, but it could be argued that if suicidal psychiatric patients report no change over time then psychiatric patients experiencing less extreme circumstances are unlikely to report such change.

A third set of hypotheses is concerned with the further exploration of the nature of group differences reported. It is possible that the four groups defined as suicidal or non-suicidal and psychiatric or non-psychiatric also differ on other psychosocial variables such as life event stress, self-competence, and symptom level which may, in themselves, predispose towards suicidal behaviour or diminished social support. To explore this possibility it is hypothesised that:

- (i) there will be group differences in these variables; and
- (ii) there will be residual differences in social support after groups are equated on such differences.

7.3 Method

7.3.1 Design

A four-group repeated measures design was employed with between and within group comparisons being made on eight measures. On three interview occasions over a 6-week period assessment was made on seven indices of social support, and on one measure each of the wish to die.

An assessment of recent life event stress was made at the first interview, and of symptom expression and self-competence on each interview occasion. These three factors were introduced as control variables to be considered in a subsequent part of the analysis.

7.3.2 Subjects

As in the first study the experimental subject was defined as an individual who attended or was admitted to the Casualty section of a city general hospital as a result of suicidal behaviour. The hospital from which the subjects for the initial study were drawn once again provided the sample. It had remained the main centre of treatment for suicide attempters in the area.

Generally, the same criteria for inclusion as employed in the original study were adopted. A change in hospital policy in the treatment of young attempters, however, excluded any individuals under the age of 16 from inclusion in the research project. In the previous study the sample had included individuals from the age of 13 years, but this had been no more than two subjects.

Data collection took place over a period of 26 months. A 14 month period from October 1986 to November 1987 was required for an adequate sample of suicide attempters to be obtained. Although initiated while the suicidal sample was being collected a further 12 months was required before all members of the two control groups had been obtained. The difficulties in contacting and maintaining contact with a sample of suicidal individuals, and in forming adequately matched control groups have been discussed in an earlier chapter.

The sample of suicide attempters was obtained from as close to a

consecutive series of presentations at the Casualty Department as was practical. During the 14 month period of data collection at Casualty there were 294 confirmed cases of attempted suicide. Of these 130 (44.2%) could be contacted within one week of their attempt, but 39 (13.3%) were unwilling to participate in the study, 16 (5.4%) were considered by the supervising medical staff likely to be unduly upset by participation, and 18 (6.1%), after initial contact, became unwilling or unable to complete the study.

Two groups of suicide attempters were required, one being comprised of suicide attempters with a psychiatric disorder, the other of individuals with no current or previous psychiatric disorders. Data collection continued, assigning each attempter to the psychiatric or non-psychiatric group, until 20 pairs matched by sex, age and social class, were obtained. In this investigation social class was reflected by categories of occupational status derived from a development of the Congalton (1963) classification by Daniel (1983). Once again a scale value of one referred to the highest occupational status. Assignment to a pair was not undertaken until an individual had completed participation in the study, but before his/her results were scored. Interviews with attempters for whom no match was found, were completed, but this data was not included in the analysis.

Assignment to one of the suicidal groups was made on the basis of a psychiatric assessment performed by psychiatric medical staff at the time of the individual's presentation. Diagnosis was based on DSM-III, with Axis 1 classifications taking precedence over diagnoses on other axes. A

diagnosis of Affective Disorder was applied to six participants, while three were given a diagnosis of Alcohol Abuse, three, of Anxiety Disorder and two were considered to be Adjustment Disorders. One subject was allocated to each of the categories concerned with somatoform disorders, dissociative disorders, and disorders of impulse control. Three of the 20 psychiatric suicide attempters included in this study were classified as Personality Disorders.

The psychiatric control subject was required to be an individual with no current or earlier suicidal history, to be in the early stages of any current treatment contact, and with a DSM-III diagnosis covered by the category Anxiety Disorders. This diagnostic category was selected partly because of the frequency of its occurrence but principally because research findings have indicated a lesser likelihood of cognitive distortion (e.g. Beck, 1967).

The non-patient control was required to be an individual from the general population with no suicidal or psychiatric history, or current psychiatric disorder. These control subjects were obtained by the same method as outlined in the initial study. Scores on the Brief Symptom Inventory (Derogatis, 1975) were used to exclude possible non-patient controls with self-reported symptoms which reached a clinical level.

In relation to the psychiatric control group a similar procedure was employed. Contact was made with the three community psychiatric clinics servicing the same area as the general hospital from which

suicidal subjects were drawn, and with the inpatient psychiatric ward associated with that hospital. Agency staff approached randomly selected individuals from the pool of appropriate patients of these agencies and upon their agreement to participate in the study, contact was made by the interviewer. Upon refusal, another selection was made. Six psychiatric patients refused, as did 3 non-patients. All non-patient and psychiatric controls completed the study once they had begun.

The resultant four groups were approximately matched in terms of age and social class with group members individually matched for sex. Each group was composed of 12 females and 8 males. There were no significant group differences in terms of age ($F(3, 76)=0.13, p>.05$) or of social class ($F(3, 76)=2.52, p>.05$). Group mean values on these variables are presented in Table 17.

Table 17 - Group Means and Standard Deviations on Age and Social Class.

Dependent Variable	Group			
	Psychiatric Suicidal	Non-Psychiatric Suicidal	Psychiatric Control	Non-Patient
Age	29.20 (10.25)	28.40 (12.23)	30.35 (10.79)	28.50 (10.68)
SocialClass	5.42 (1.25)	4.88 (1.04)	5.40 (0.79)	4.69 (1.07)

Note. n=20 for each of the four groups.

In the three patient groups individual matching in relation to recidivism was achieved, with 5 first time presenters and 15 recidivists in each group. Recidivism was defined as the occurrence of previous suicidal behaviour for the suicidal groups and of previous psychiatric disorder for the psychiatric control group.

Individual matching in terms of hospital status was attempted but proved to be impossible. The two suicidal groups did not differ significantly in their proportion of inpatients, with 15 psychiatric attempters and 10 non-psychiatric attempters being admitted following the attempt ($\chi^2(1)=1.71$, $p>.05$), but the mean duration of hospitalisation for those admitted was significantly different ($t(23)=2.47$, $p<.05$). The mean duration of hospitalisation of those admitted in the psychiatric suicidal group was 15.33 (SD=14.76) days, but was only 3.60 (SD=2.46) days for the non-psychiatric suicidal group.

Suicidal group subjects were matched in terms of hospitalisation in 13/20 pairs of suicidal subjects. In contrast, the psychiatric group was totally composed of outpatients, and the non-suicidal non-patient group was composed of non-patients.

There were no significant differences between the two suicidal groups in terms of mean index of life endangerment of the attempt, or in depressed, extrapunitive or operant motivation associated with the attempt (See Table 18).

Table 18 - Group Means and Standard Deviations on Degree of Life Endangerment, and Motivations associated with the Suicide Attempt.

Dependent Variable	Group				df	F	p
	Psychiatric Suicidal		Non-Psychiatric Suicidal				
	M	SD	M	SD			
Life Endang.	8.45	(1.96)	8.15	(2.16)	19	0.45	NS
Depressed Motivation	9.60	(2.48)	9.40	(3.22)		0.24	NS
Extrapun. Motivation	8.60	(3.50)	8.85	(3.70)		-0.25	NS
Operant Motivation	7.20	(2.75)	7.00	(1.92)		0.25	NS

Note. n=20 for each of the suicidal groups.

A significantly greater proportion of the psychiatric suicidal group had had previous psychiatric contact, and the psychiatric suicidal group was more likely to be given prolonged psychiatric or social work follow-up following the attempt. However, there was no significant difference in the proportion of multiple attempters, of those subsequently prescribed medication, or in the mean duration for which this medication was taken ($t(13)=-0.86$, $p>.05$) during the course of the six week follow-up (See Table 19). The mean duration of medication use for the psychiatric suicidal group was 37.73 (SD=9.72) days and was 42.00 days (SD=0) for the non-psychiatric suicidal group.

Table 19 -Comparison between the Psychiatric and Non-Psychiatric Suicide Attempters.

Dependent Variable	Group		χ^2	df	p
	Psychiatric Suicidal	Non-Psychiatric Suicidal			
Psychiatric History	17	9	5.39	1	*
Multiple Previous Attempts	7	4	0.57	1	NS
Prolonged Psych. Treatment	15	2	14.73	1	**
Medication	11	4	3.84	1	NS
Repeated During Follow-up	3	1	0.28	1	NS

Note. Yates correction has been employed in these χ^2 * = $p < .05$ ** = $p < .01$

During follow-up three members of the psychiatric suicidal group and one member of the non-psychiatric suicidal group made another suicide attempt. All were female, between the ages of 16 and 28 years, 3 were recidivists, and 3 were inpatients. A Chi Squared test indicated that the difference in frequency of subsequent attempts was not significant ($\chi^2(1)=0.28, p>.05$).

7.3.3 Materials

The Interview Schedule for Social Interaction

As in the previous study, the ISSI was employed in this investigation. The same four indices (AVSI, ADSI, AVAT, %ADAT) were derived from it.

Visual Analogue Scales

The Visual Analogue Scales of the original study were also employed.

Life Event Stress Inventory

This study employed the 67-item Life Events Inventory (See Appendix A) constructed by Tennant and Andrews (1976). It is suitable for questionnaire or interview administration, and was used in this study as part of a structured interview. Two sets of matched scalings of events, the first concerned with the extent of life change produced by the event, and the second the amount of distress caused by the event, are provided. In view of evidence from comparative studies which favours distress rather than change as the characteristic of life events that should be measured to most accurately assess their stressfulness (Henderson et al., 1981; Tennant, 1977/1979), the 'distress' scaling was employed in this investigation.

The authors of this inventory indicate that it encompasses a wide range of life events, both desirable and undesirable, and is less limited in the scope and specificity of the life events recorded than either of its parent scales, the Holmes and Rahe Social Readjustment Rating Scale (Holmes & Rahe, 1967) or the Paykel scale (Paykel, Prusoff, & Uhlenhuth, 1971). There is less reliance on items which are either symptoms or symptom related, which would undermine its usefulness in examining the relationship between symptomatology and life event stress (Tennant, 1977/1979). Further, the Tennant and Andrews scale was based upon the responses of an Australian urban sample, and each of the scalings was consistent across the sociodemographic groups in the population (Tennant & Andrews, 1976). This inventory and scalings were, therefore, considered to be more suitable for use in an Australian urban population than the available alternatives.

Criticisms of The Tennant and Andrews scale, in relation to the adequacy of item content, the phrasing of items, the emphasis on transitory events rather than long-standing experiences, and the lack of provision for the reporting of significant experiences not otherwise covered by appropriate items on the list (Henderson et al., 1981), are comparable with those levelled at other inventories of this kind. The difficulties in establishing the reliability of life event measures have been noted (Tennant, 1977/1979) and the administrative procedures to maximise reliability advocated by Tennant (1977/1979) were adopted in this investigation.

More general criticisms of the inventory approach have been discussed elsewhere (e.g. Henderson, 1988). In response there has been a

tendency to move away from inventory approaches to measuring life event stress and to employ alternative methodologies such as the Brown and Harris (1978) procedures. Comparisons of the Brown and Harris approach with the use of more traditional checklists have recorded both remarkably similar findings in relation to life event stress and psychiatric disorder (Andrews & Tennant, 1978), and illustrated that a considerable amount of information may be overlooked with a checklist approach (Bebbington, Tennant, Sturt, & Hurry, 1984).

However, the Brown and Harris procedures (1978), in which independent raters assess each event experienced by the individual patient for the severity of threat to that patient, was inappropriate for this study. The purpose and resources of this investigation did not permit its application. A wide range of information was required from the respondent in this investigation, with assessment of recent life event stress forming only a small part. The Tennant and Andrews Life Events Inventory did produce information on exposure to life event stress without overloading the subject and allowed sufficient time for enquiry into other areas of information.

The Perceived Support Network Inventory (PSNI)

The Perceived Support Network Inventory (Oritt, Paul, & Behrman, 1985), is a self-report pencil and paper measure of perceived social support (See Appendix A). It operationalises a range of social support variables including perceived network size, the initiation of support seeking

behaviours, perceived availability of support, satisfaction with support, perceived multidimensionality of relationships, perceived support reciprocity, and perceived network conflict.

The variable of interest in this study, perceived network size, is defined as the number of supportive network members that a person believes is available during times of stress. An assessment of this variable was made in this investigation by administering relevant items as a structured interview. The respondent was asked to list those individuals to whom they would go for support or help during a stressful time in their life, and the categories of support that might expected from each person.

Preliminary psychometric evaluation of the PSNI as a whole has been encouraging. Test-retest reliability of the PSNI total score and sub-scale scores ranging from .72 to .88 have been reported, but data concerning the test-retest reliability of the perceived network size subscale has yet to be collected (Oritt et al., 1985). A coefficient alpha of .60, a measure of internal consistency, was recorded when all seven subscales were included in total score. This increased to .77 when the perceived network size subscale was deleted. The authors suggested that perceived network size may not be as conceptually related to the construct of perceived social support as other variables examined.

Estimates of construct validity for the PSNI, generated by comparisons with the Perceived Social Support Inventory (Procidano & Heller, 1983), a global measure of social support, and the Inventory of Socially

Supportive Behaviors (Barrera, Sandler, & Ramsey, 1981), a measure of supportive interactions, revealed correlations ranging from .21 to .57.

Element S: Self-Concept - The Schutz Measures

A scale taken from Element S (Self Concept) of The Schutz Measures-Elements of Awareness (Schutz, 1983), which consists of a series of instruments that measure various aspects of human functioning and human relationships, was employed in this study. All elements were derived from the FIRO (Fundamental Interpersonal Relations Orientation) theory of interpersonal behaviour (Schutz, 1958/1966) and result from a revision and extension of the original theory.

Element S, concerned with self-concept, is composed of six 9-item scales, and provides insight into how the respondent feels about him/herself. The instrument, therefore, consists of 54 items answered on a six-point scale ranging from "definitely not true" to "especially true". Each item may be answered twice, once describing the way things are perceived and once indicating how the respondent would like things to be.

The measure is largely self-administered. Items are short and the vocabulary is simple (See Appendix A). Element S can generally be completed within about twenty minutes. Each scale is scored from 0 to 9 and this score indicates the degree to which the respondent agrees with the scale name.

Administration of Element S in this study was concerned only with the respondent's current self-perceptions, and analysis involved only the scale of self-competence. Competence is described by this scale as the feeling that one has the capacity to cope with the world, to use one's ability's to satisfy one's wants, to avoid tragedy, and to be able to handle problems that arise in the course of living. Typically it has to do with the ability to make decisions and to solve problems. It refers to feelings of competence, intelligence, ability and strength. Clearly many of these descriptions are consistent with the concept of self-efficacy which Bandura (1982) has defined as "...the conviction that one can successfully execute the behavior required..." (p. 141).

This scale possesses satisfactory internal consistency (Schutz, 1983). Schutz argues that the extensive reports attesting to the usefulness and content validity of the original FIRO scales (Schutz, 1977) apply also to the present scales as their content is simply an expansion and clarification of the original FIRO scales. A study, comparing the responses of 75 introductory psychology students on the Tennessee Self Concept Scale and Element S, was undertaken by the author of this thesis. Correlations between the subscales of Element S and the Identity Scale of the Tennessee Self Concept Scale ranging from .44 to .62 were reported, and from .43 to .69 in relation to the Behaviour Scale.

Brief Symptom Inventory

The Brief Symptom Inventory (Derogatis, 1975) is a 53 item self-report symptom scale designed to assess the psychological symptom patterns of psychiatric and medical patients (See Appendix A). It was developed from the longer instrument, the SCL-90-R, and like it, the Brief Symptom Inventory (BSI) was considered to be a measure of current psychological symptom status, and not a personality measure (Derogatis, 1975).

It has been employed in a range of recent investigations as a measure by which severity of psychiatric symptoms could be tracked (e.g. Wierzbicki & Bartlett, 1987), has been recommended as a screening instrument for psychological distress (Witztum, Brown, & De-Nour, 1987), and used as one of the screening criteria for those in need of mental health treatment (Morse & Calsyn, 1986). It has been found to be useful in making discriminations between groups of new admissions to a drug treatment agency with various levels of drug abuse, between those having fewer or more life areas affected, and between primary clients and their significant others (Royse & Drude, 1984). The primary purpose of its inclusion in this study was to monitor subject symptom levels throughout the course of the study, but it also served secondarily to screen out non-patient subjects with clinically high symptom levels.

The BSI assesses 9 primary symptom dimensions; somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The

inventory also provides three global indices of distress, the General Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST). The function of the three global indices is to communicate in a single score the level or depth of symptomatic distress currently experienced by the individual. The GSI is generally considered to be the preferred indicator of current distress levels, and is recommended in most instances where a single summary measure is required. It combines information on the numbers of symptoms and the intensity of perceived distress. Accordingly this (BSI-GSI) was the index of psychological symptom distress employed in this study.

Each item of the BSI is rated on a 5-point scale of distress (0-4) ranging from 'not at all' to 'extremely'. Test administration normally takes less than ten minutes.

Psychometric evaluation has revealed the BSI to be an acceptable short alternative to the SCL-90-R (Derogatis & Melisaratos, 1983). Both test-retest and internal consistency reliabilities are shown to be acceptable for the primary symptom dimensions of the BSI, and its correlation with the comparable dimensions of the SCL-90-R is high (Derogatis & Melisaratos, 1983). High convergence between BSI scales and like dimensions of the MMPI provide good evidence of convergent validity, and factor analytic studies of the internal structure of the scale contribute evidence of construct validity.

High convergent validity for the BSI with a number of other scales in predicting affective status among other chronic pain patients has been demonstrated (Kremer, Atkinson, & Ignelzi, 1981), as has the BSI's substantial predictive value in a counselling centre population (Peterson et al., 1981).

Other Data

A record of treatment, hospitalisation, and the prescription of psychotropic medication following the attempt was kept, as was a note of any subsequent suicidal behaviour during the period of study. Suicidal behaviour on the part of any member of the two non-suicidal groups led to the deletion of that subject from the study.

An estimate of the degree of life endangerment posed by each attempt, together with the strength of expressed depressed, extrapunitive and operant motivation for the attempt was made by employing relevant items from the Demographic and Background Data Checklist of the first study.

A psychiatric assessment and diagnosis was made and recorded together with details of the individual's psychiatric history (number, duration and recency of psychiatric contacts).

7.3.4 Procedure

Procedural aspects of this study paralleled those of the original investigation in terms of general structure and information given to participants. Suicidal individuals were referred by psychiatric medical staff and with the attempter's informed consent, interviewed within 7 days of the act. The mean delay to the first interview was 4.03 (SD=1.86) days. Two subsequent interviews were undertaken 2 and 6 weeks after the original interview. Members of the two control groups underwent the same interview series.

Once again the interview was standardised as much as was practicable. Questioning regarding the nature of the attempt was followed by interview administration of the Life Events Inventory and by self-completion of the Brief Symptom Inventory. This was followed by administration of the ISSI and the PSNI, and self completion of the Self-Competence Scale and the three Visual Analogue Scales. The initial contact generally lasted about two hours, while the two follow-up interviews were somewhat shorter at 90 minutes. In the latter assessment of recent life event stress and discussion of the recent suicide attempt was deleted.

During the inter-interview period further sets of the three Visual Analogue Scales were completed and returned by post at weekly intervals.

All contacts with the subject were undertaken by the same interviewer, who had carried out all assessments in the earlier investigation.

7.4 Results

7.4.1 Method of Analysis

The interest in this analysis continued to be group differences in social support and the wish to die, initially, and after six weeks, and in differences between groups in linear trends over this period for each of the dependent variables.

The existence of a significant difference was assessed in each instance by an F-test. As there were eight social support measures, the Bonferroni adjustment to the significance level to control for Type 1 error was made by dividing the normal .05 value by the number of tests (24) to give a significance level of .00208. Results which were significant at the 5% level before making the Bonferroni adjustment, were also reported and treated as trends on which judgement should be suspended.

To establish whether there were initial deficits in social support and whether these deficits persisted at the end of the 6-week period one-way analyses of variance were performed between all pairs of group means on each of these two occasions. To further interpret the meaning of group differences found to be significant by the Bonferroni adjusted F-tests, Tukey tests were performed at the .05 significance level to identify the difference between group means which were most likely to be significant.

In addition, to assess the significance of changes over time in each of the eight variables concerned with social support and the wish to die, F-tests for linear trend were calculated within a two factor analysis of variance and treated as planned comparisons with Bonferroni adjusted significance levels (Keppel, 1982).

7.4.2 Main Findings

The variables examined in this analysis related primarily to different aspects of social support, but one variable also considered the wish to die. The results of the one-way analyses of variance (See Table 20) revealed significant group differences on 6/8 variables (AVSI, ADSI, AVAT, VASCA, VASCB, VASCC) at the initial interview, and on 3/8 variables (AVSI, ADSI, VASCA) at the final interview. Group differences significant at the .05 level were recorded for all remaining variables.

Table 20 - Results of One-Way Analyses of Variance Comparing the Four Experimental Groups at Presentation and after Six Weeks.

Dependent Variable	df	Error Mean Square	F	p
Interview 1				
AVSI	3, 76	9.24	9.83	p<.00208
ADSI		12.12	8.12	p<.00208
AVAT		2.68	6.28	p<.00208
%ADAT		457.13	5.21	p<.05
PSNI		8.68	4.29	p<.05
VASCA		594.14	11.32	p<.00208
VASCB		812.69	5.45	p<.00208
VASCC		782.65	5.89	p<.00208
Interview 3				
AVSI		7.63	8.54	p<.00208
ADSI		10.05	7.23	p<.00208
AVAT		2.13	4.72	p<.05
%ADAT		486.05	3.81	p<.05
PSNI		10.44	4.93	p<.05
VASCA		707.52	7.20	p<.00208
VASCB		576.02	3.41	p<.05
VASCC		646.97	4.06	p<.05

Note. alpha=.00208 is determined by the Bonferroni adjustment .05/24 where 24 tests are used

Tukey tests (See Table 21) indicated that initially the three patient groups were not significantly different on indices of the wish to die or of social support (except AVAT). Both suicidal groups scored significantly less

than the non-patient group on indices of social support and of the wish to die. The exceptions were in relation to AVAT, and PSNI, where the non-psychiatric suicidal group was not significantly different from the non-patient group. The psychiatric control group scored less than the non-patient group on indices of social support (except AVAT, VASCB), and of the wish to die.

The differences between the psychiatric suicidal group, and both the non-psychiatric suicidal group and the non-patient group on AVAT, and between both the psychiatric suicidal and the psychiatric control groups and the non-patient group on PSNI, significant only at the .05 level must be treated with caution.

Therefore, generally at the initial interview the self-reported social support system of the two suicidal groups and the non-suicidal psychiatric group was similar, and on many variables less than that of the non-patient group. Similarly, the strength of the wish to die is similar for the three patient groups and different from the non-patient group.

Table 21 - Group Means and Standard Deviations on Indices of Social Support and the Wish to Die at Presentation and after Six Weeks

Dependent Variable	Group							
	Psychiatric Suicidal		Psychiatric Control		Non Psychiatric Suicidal		Non Patient	
	(n=20)		(n=20)		(n=20)		(n=20)	
	M	SD	M	SD	M	SD	M	SD
At Interview 1								
AVSI	6.75	(3.28)	7.10	(3.16)	7.35	(3.20)	11.30	(2.45)
ADSI	7.95	(3.09)	8.90	(3.78)	8.45	(4.22)	12.80	(2.61)
AVAT	4.95	(1.79)	5.90	(1.52)	6.35	(1.79)	7.15	(1.42)
%ADAT	56.40	(23.19)	62.95	(17.84)	59.60	(27.30)	80.80	(15.08)
PSNI	6.25	(2.67)	6.65	(3.22)	7.05	(2.33)	9.30	(3.44)
VASCA	38.00	(29.78)	43.20	(21.70)	43.90	(29.48)	78.00	(12.24)
VASCC	61.50	(35.47)	71.90	(26.87)	73.10	(33.64)	97.35	(4.39)
	Non Psychiatric Suicidal		Psychiatric Suicidal		Psychiatric Control		Non Patient	
VASCB	53.65	(35.38)	53.80	(32.42)	62.85	(27.48)	85.25	(13.88)

At Interview 3

	Psychiatric Suicidal	Psychiatric Control	Non Psychiatric Suicidal	Non Patient
AVSI	7.65 (2.54)	7.80 (3.30)	9.95 (2.96)	11.40 (2.09)
AVAT	5.70 (1.63)	6.00 (1.81)	6.95 (1.05)	7.15 (1.23)
PSNI	7.50 (2.50)	7.10 (4.45)	9.70 (2.94)	10.35 (2.66)
VASCA	61.05(32.84)	53.65(31.81)	84.55(22.57)	84.45(15.18)
VASCB	65.90(28.92)	72.10(20.64)	84.45(24.58)	86.60(20.92)
VASCC	74.20(39.99)	77.30(27.51)	91.75(14.67)	98.15 (4.13)
ADSI	9.60 (3.38)	10.40 (3.27)	12.25 (3.39)	13.85 (2.58)

%ADAT	60.90(24.48)	68.90(25.67)	74.45(19.76)	83.80(17.19)
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Note. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

At the final interview the non-patient group and the non-psychiatric suicidal groups were not significantly different on any variables of social support or the wish to die. The psychiatric suicidal group was still significantly different from the non-patient group on 7/8 dependent variables (not %ADAT), and the psychiatric control group was still significantly less than the non-patient group on 5/8 variables (not AVAT, VASCB, VASCC). However, many of these differences were significant only at the .05 significance level.

The two suicidal groups were not significantly different on 5/7 variables (ADSI, %ADAT, PSNI, VASCB, VASCC). The two psychiatric groups were not significantly different on any measures of social support.

These findings suggested that while the non-psychiatric suicidal group became more like the non-patient group, both the psychiatric suicidal and the psychiatric control groups were more likely to remain significantly different from the non-patient group. The relationship between the two suicidal groups and between the two psychiatric groups generally did not change, with the groups remaining very similar on most variables.

Although these findings are suggestive of improvement on the part of the non-psychiatric group, while the remaining two patient groups change little, it is necessary to examine the group differences on linear trend in order to establish this (See Table 22).

Table 22 - Mean Linear Trend Analysis of Variance in Replication Study.

Dependent Variable	df	Error Mean Square	F	p
AVSI	3, 76	8.09	2.84	P<.05
ADSI		9.44	4.26	P<.05
AVAT		2.79	0.97	NS
%ADAT		599.11	2.11	NS
PSNI		6.66	2.60	NS
VASCA		11550.83	5.75	P<.00208
VASCB		19590.52	3.10	P<.05
VASCC		15123.13	2.87	P<.05

Note. alpha=.00208 is determined by the Bonferroni adjustment .05/24 where 24 tests are used.

An analysis of linear trend indicated significant group differences in linear trend on only one variable, VASCA (See Table 22). Group differences in positive linear trend significant at the .05 level were recorded on a further four variables (AVSI, ADSI, VASCB, VASCC).

The non-psychiatric suicidal group demonstrated a significantly greater degree of positive linear trend than the non-patient group on 4/5 variables (AVSI, ADSI, VASCA, VASCB). The psychiatric suicidal group

was not significantly different from either the non-psychiatric suicidal group and non-patient group in degree of positive linear trend. The psychiatric control group and the non-patient group did not differ significantly from each other in degree of positive linear trend (See Table 23).

Table 23 - Mean Linear Trend Demonstrated by Indices of Social Support and the Wish to Die, by Group.

Dependent Variable	Group			
	Psychiatric Suicidal (n=20)	Psychiatric Control (n=20)	Non Psychiatric Suicidal (n=20)	Non Patient (n=20)
AVSI	0.10 (2.73)	0.70 (1.87)	0.90 (3.34)	2.60 (3.20)
ADSI	1.05 (2.35)	0.70 (3.26)	2.45 (3.19)	3.80 (3.38)
VASCA	27.75 (63.91)	45.20 (120.01)	109.60 (127.05)	152.05 (107.59)
VASCB	1.05 (79.80)	27.50 (135.39)	60.65 (192.37)	128.50 (129.08)
VASCC	-0.15 (24.08)	-0.95 (140.39)	68.40 (132.69)	89.10 (150.32)

Note. All means with a single solid underline are not significantly different at the .05 level using a Tukey test.

A comparison of the four groups on the Visual Analogue Scales completed over the period of study is shown in Figure 4. The means upon which this figure is based can be found in Appendix C.

7.5 Discussion

The results of this study generally parallel those of the previous study:

(i) The two suicidal groups did not differ significantly at the initial interview.

(ii) The psychiatric suicidal group initially reported greater social support deficits and a greater wish for death than the non-patient group and for the most part continued to do so at the final follow-up interview. This group was not significantly different in linear trend from the control group on any of the variables employed but the degree of change was for the most part considerably greater than that demonstrated by the non-patient group. Unlike the results reported in the previous chapter, the degree of change was not significantly different from the non-psychiatric suicidal group on any variable. One interpretation of these findings is that the non-psychiatric suicidal group improves, as does the psychiatric suicidal group, albeit to a lesser degree.

(iii) The non-psychiatric suicidal group was also disadvantaged relative to the non-patient group in terms of social support, but on a smaller number of variables, and reported a greater wish to die. This group clearly improved to a significantly greater degree than the non-patient group over the follow-up period.

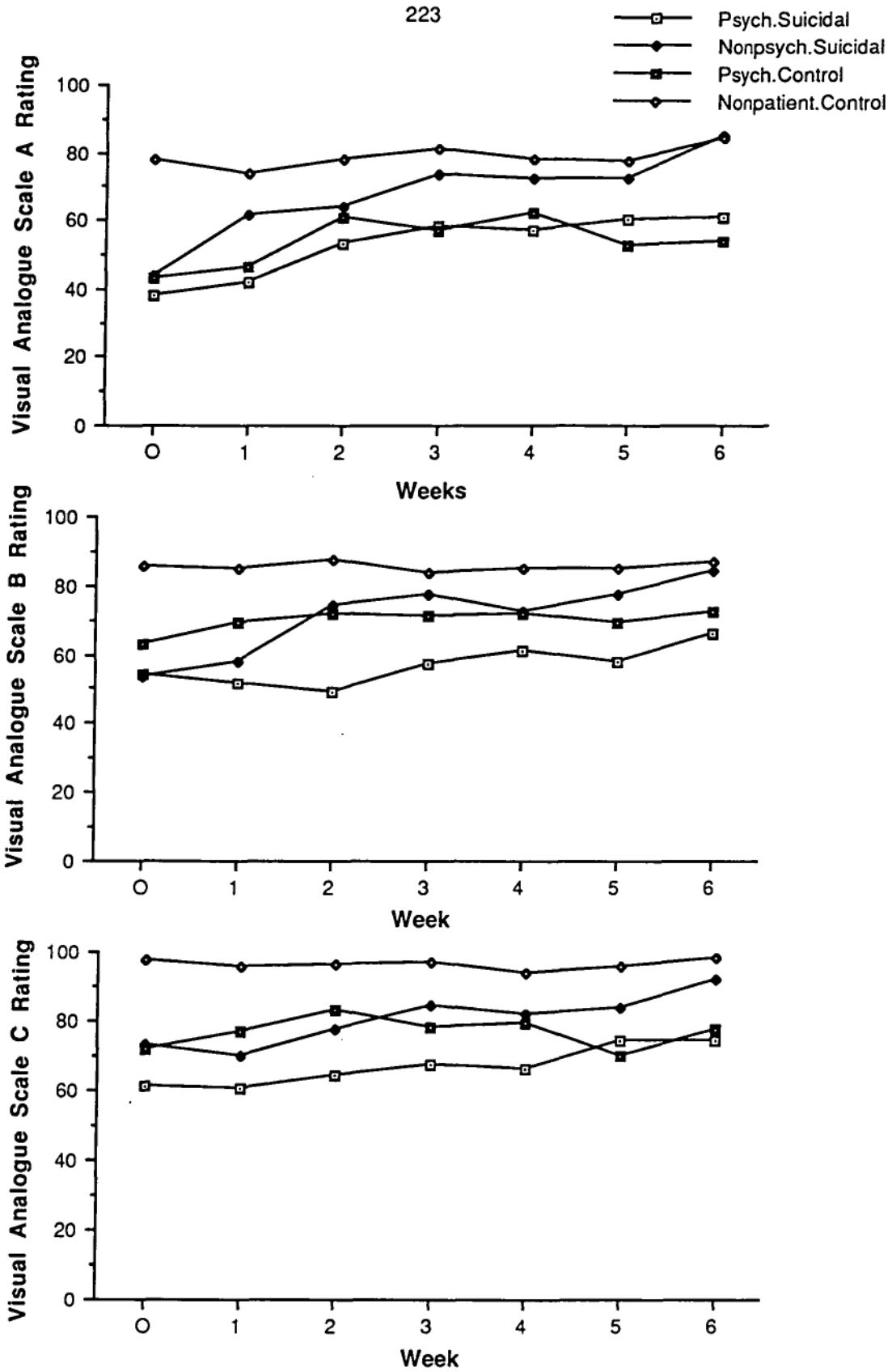


Figure 4 - Group Mean Ratings on Visual Analogue Scales A, B, and C over Period of Study Comparing Groups employed in the Replication Study.

(iv) The additional group in this study, the psychiatric control group was not significantly different from the two suicidal groups in terms of social support or the wish to die at the time of the initial interview. Similarly the psychiatric control group was generally disadvantaged relative to the non-patient group initially and remained that way at follow-up. It was not significantly different in trend from the non-patient or the psychiatric control group, or indeed from the non-psychiatric suicidal group on some variables.

(v) Change was most clearly seen on a subjective measure, concerned with the degree of satisfaction with circumstances in general (VASCA). Group differences in positive linear trend in relation to three other subjective measures, satisfaction with the extent of less intimate social relationships (ADSI), the relationship with one's most significant other (VASCB), and strength of wish to die (VASCC), was significant only at the .05 level. Only one of the three availability measures included in this study revealed group differences in linear trend, and only at the .05 level (AVSI).

(vi) Examination of the graphs of scores on the three Visual Analogue Scales did not reveal the same pattern of change as in the previous study. The non-psychiatric suicidal group did appear to continue to improve over the follow-up period, but in contrast to the results of the previous study the psychiatric suicidal group showed no consistent pattern. Change was not consistently localised to any particular part of the follow-up period.

Interpretation of these results cannot be carried out without consideration of their relationship with the results of the study reported in the previous chapter. A comparison of the results of the analyses of the second typological study and the replication study in this series are presented in Table 24. Only those variables on which significant group differences were reported in both studies, or a significant group difference in one study was matched by a non-significant trend ($p < .05$) in the other, will be considered to have validity.

On this basis group differences at the initial interview on all of the seven variables common to both studies have been established. Similarly, significant group differences on all variables but %ADAT are indicated at the final interview. No significant group differences in positive linear trend have consistently emerged in relation to the four ISSI measures, but there do appear to be replicable differences in relation to the three Visual Analogue Scales particularly VASCA.

Table 24 -A Comparison of the Results of the Second Typological and the Replication Studies.

Dependent Variable	Second Typological Study	Replication Study
Initial Interview		
AVSI	sig	sig
ADSI	sig	sig
AVAT	sig	sig

%ADAT	sig	ns trend
VASCA	sig	sig
VASCB	sig	sig
VASCC	sig	sig
PSNI	----	ns trend

Linear Trend

AVSI	ns	ns trend
ADSI	ns	ns trend
AVAT	ns trend	ns
%ADAT	ns trend	ns
VASCA	sig	sig
VASCB	sig	ns trend
VASCC	sig	ns trend
PSNI	----	ns

Final Interview

AVSI	sig	sig
ADSI	sig	sig
AVAT	sig	ns trend
%ADAT	ns	ns trend
VASCA	sig	sig
VASCB	sig	ns trend
VASCC	sig	ns trend
PSNI	----	ns trend

While the relationship between groups at the initial and final interviews identified in the previous study have been sustained in this investigation, the differences between groups over time were less clear. In the replication study the non-psychiatric suicidal group, which improves over

the period of study, was less clearly distinct from the psychiatric suicidal group.

The difference in the degree to which the psychiatric suicidal group of these two studies reported change may have been attributable to the size of their available networks. The psychiatric suicidal group of the previous study may have had a less extensive network upon which to call for support as suggested by their scores on AVSI. In the replication study the two suicidal groups reported a supportive network of similar size at the initial interview, as recorded by their PSNI, AVSI scores.

It is also conceivable that differences between the psychiatric suicidal group in the replication study and the psychiatric suicidal group in the previous analysis on any one of a range of variables may be relevant to differences in reported network change. Comparison of the two groups on a range of demographic variables, and variables concerned with the nature and motivation for the attempt, history of suicidal behaviour or psychiatric treatment, and the nature and duration of treatment following the current attempt, revealed no significant differences (See Table 25).

Table 25 - Comparison of the Psychiatric Suicidal Groups derived from the Second Typological Study and from the Replication Study.

Dependent Variable	Group		χ^2	df	p*
	Second Typological Study	Replication Study			
Sex Male	10	8			
Female	15	12	0.094	1	NS
Hospitalised	23	15	1.320	1	NS
Prolonged Psychol. Treatment	16	15	0.220	1	NS
Recidivists	17	15	0.034	1	NS
Multiple Attempters	8	7	0.111	1	NS
Psychiatric History	19	17	0.141	1	NS
Multiple Previous Psych.Contacts	16	11	0.930	1	NS
			t	df	p
Mean Age	34.00 (13.73)	29.20 (10.25)	1.30	43	NS
Mean Social Class	5.04 (1.37)	5.42 (1.25)	-0.96	43	NS
Mean Inpatient Duration	13.70 (12.64)	15.33 (14.76)	-0.37	36	NS

Mean Index of Life Endanger.	7.84 (2.72)	8.45 (1.96)	-0.84	43	NS
Depressed Motivation	11.00 (2.89)	9.60 (2.48)	1.72	43	NS
Extrapun.Motivation	8.04 (2.54)	8.60 (3.50)	-0.62	43	NS
Operant Motivation	8.44 (2.22)	7.20 (2.75)	1.68	43	NS
Mean Number of Previous Psychiatric Contacts	3.05 (1.84)	2.94 (2.66)	0.15	34	NS
Mean Duration of Contact with Psych. Services	4.25 (3.88)	6.03 (5.60)	-1.12	34	NS
Mean Psych. Contacts/Year	1.78 (1.93)	0.96 (0.87)	1.63	34	NS
Mean Interval Between psych. Contacts	1.30 (0.97)	2.32 (2.03)	-1.96	34	NS

Note. Yates correction has been employed for χ^2 with 1 degree of freedom.

* = $p < .05$

A significant difference in the diagnostic categories represented in the two samples ($\chi^2(1)=6.28$, $p < 0.05$) did emerge. In the replication study, 6/20 (30%) of the psychiatric suicidal group could be diagnosed as Drug or Alcohol Dependent or as Personality Disordered, while 18/25 (72%) of the group were so diagnosed in the second typology study. It could be

argued that the prognosis for individuals with diagnoses such as these is poorer than for those with affective disorders. The former are more likely to reflect chronic conditions, to be more debilitating to the individual's support system, and less amenable to treatment (Rosenhan & Seligman, 1984; Stafford-Clark & Smith, 1983).

While the social support system of the alcoholic suicide is often chronically depleted, and social isolation or disruption of interpersonal relationships is a major determinant of completed suicide, this is less clearly the case for the suicidal individual with an affective disorder where suicide is a response to depressive symptoms (Berglund, Krantz, & Lundqvist, 1987; Murphy, Armstrong, Hermele, Fischer, & Clendenin, 1979; Murphy & Robins, 1967; Robin, Brooke, & Freeman-Browne, 1968). Similarly, the suicide attempter with a diagnosis of alcoholism or personality disorder often reports social reasons for the attempt (Garvey & Spoden, 1980; Robins, Schmidt, & O'Neal, 1957), while the majority of depressives report only personal reasons such as guilt or hopelessness (Robins et al., 1957).

A diagnosis of personality disorder or of alcoholism has been commonly associated with persistence of suicidal ideation, repeat attempts (Adam et al., 1983; Buglass & Horton, 1974; Greer & Bagley, 1971; Kessel & McCulloch, 1966) and subsequent completed suicide (Cullberg et al., 1988; Kessel & McCulloch, 1966). The most prominent reactions of alcoholic individuals upon surviving an attempt have been reported to be anger and uneasiness (Wolk-Wasserman, 1985), and in contrast to the

subsequent therapeutic contacts of attempters given a diagnosis of neurosis, those diagnosed as alcohol or drug abusers did not experience satisfactory therapeutic contacts (Wolk-Wasserman, 1987). It has been observed that the efficacy of suicide prevention programmes and alcohol treatment regimes are both very limited, and that generally those alcoholics who are at highest risk of suicide are those least responsive to intervention (Kendall, 1983).

Consistent with Lester (1983) the findings of this investigation highlight diagnosis as a variable to be taken into consideration in further exploration of the characteristics of suicide attempters.

7.6 The Effect of Possible Confounding Variables such as Life Event Stress, Personality and Psychological Symptom Distress

Scores on variables related to recent life event stress, psychological symptom status and self-competence were treated as control variables. A first step in evaluating the potential influence of these variables upon group differences in social support involved computation of the correlation (Pearson Product Moment) between scores on each of the dependent and the control variables (See Table 26).

Table 26 - Correlations between Control and Dependent Variables.

Dependent Variable	Control Variables				
	Interview 1			Interview 2	
	Life Event Stress	Self Compet.	BSI-GSI	Self Compet.	BSI-GSI
AVSI	-.21	.49	-.52	.39	-.35
ADSI	-.24	.54	-.58	.29	-.41
AVAT	-.31	.44	-.50	.27	-.46
%ADAT	-.22	.53	-.58	.14	-.27
PSNI	-.29	.25	-.42	.19	-.21
VASCA	-.40	.51	-.53	.48	-.74
VASCB	-.28	.44	-.37	.51	-.65
VASCC	-.42	.56	-.50	.49	-.75

Note. $r=.22, p=.05$ $r=.28, p=.01$

In general, moderately large and statistically significant correlations between each of the dependent and each of the control variables was revealed. This finding raised the possibility that differences between groups in social support and the wish to die may have been a consequence of significant group differences on the control measures.

To explore the possibility that these variables may have caused the group differences in social support, analyses of variance (See Table 27) were performed to assess differences on the control variables at the

initial and final interviews. Since these analyses were exploratory rather than confirmatory it was considered adequate to use the $\alpha=.05$ significance level. Tukey tests were also performed at the .05 significance level to identify the difference between group means which were most likely to be significant.

Table 27 - Results of One-Way Analyses of Variance Comparing Groups on Control Variables.

Dependent Variable	df	Error Mean Square	F	p
Interview 1				
Life Event Stress	3, 76	2157.44	4.70	p=.0046
Self Competence		5.27	11.12	p=.0000
BSI-GSI		0.40	34.93	p=.0000
Interview 3				
Self Competence		6.66	4.87	p=.0038
BSI-GSI		0.56	11.32	p=.0000

At the initial interview the three patient groups did not differ on Life Event Stress (See Table 28). The psychiatric suicidal group reported greater

life event stress than the non-patient group but the two remaining patient groups were not significantly different from the non-patient controls.

Initially the three patient groups did not differ significantly from each other in terms of self-competence, and all recorded significantly lower scores than the non-patient control group (See Table 28). The three patient groups remained not significantly different at the final interview, but the non-psychiatric suicidal group was no longer significantly different from the non-patient group.

On the BSI-GSI all three patient groups initially recorded significantly greater symptom levels than the non-patient group. The psychiatric suicidal group expressed greater levels of symptomatology than either of the other two patient groups. At the final interview the non-patient group and the non-psychiatric suicidal group were similar while the two remaining patient groups continued to record a significantly higher symptom level than the non-patient group (See Table 28).

Table 28 - Group Means and Standard Deviations on Control Variables.

Dependent Variable	Group			
	Psychiatric Suicidal	Non Psychiatric Suicidal	Psychiatric Control	Non Patient
Interview 1				
Life Event Stress	122.10 (61.27)	107.00 (47.63)	87.65 (39.88)	70.50 (31.89)

BSI-GSI	2.35 (0.67)	1.54 (0.76)	1.41 (0.70)	0.32 (0.26)
Self-Competence	2.05 (1.76)	3.90 (2.53)	3.60 (2.64)	6.20 (2.14)

Interview 3

	Psychiatric Suicidal	Psychiatric Control	Non Psychiatric Suicidal	Non Patient
BSI-GSI	1.51 (1.18)	1.20 (0.67)	0.60 (0.55)	0.28 (0.30)
Self-Competence	3.50 (2.82)	3.85 (2.76)	4.75 (2.49)	6.35 (2.21)

One way to assess whether there are residual differences in the dependent variables after accounting for group differences on control variables is to employ analyses of covariance. However, this technique makes the assumption that the slopes of the within group regression lines are uniform across all groups. This assumption was explored and found not to hold in all cases.

It was decided to make a preliminary assessment of residual differences in social support and the wish to die after taking account of the control variables. This was accomplished by dividing the total subject population at the median for each control variable and assessing whether group differences remained in those halves of the population which comprised subjects highest in stress, and in symptom levels, and lowest in self-competence. A difficulty presented itself in the form of low numbers of non-patient control group subjects in the high life event stress, high symptom distress, and low self-competence categories. It was considered that sampling would be inadequate unless at least three subjects from each group were available for the analysis. On this basis (See Table 29) analyses of the effects of the variables Self-Competence and Psychological Symptom Distress at the first interview were omitted.

The results of this analysis are presented in Table 30. An examination of this table reveals that none of the between group differences on the initial or final assessment is found to persist uniformly in the high risk category of stress, self-competence or symptom level. It should be remembered that these analyses were carried out on a sample approximately half the size of the sample available for the original analyses, and consequently significant differences will be more difficult to achieve. However, significant differences could not be found even if the .05 significance level was used in place of the Bonferroni adjusted significance level.

Table 29 - Sample Size of High Risk Categories.

Control Variable	Group			
	Psychiatric Suicidal	Non Psychiatric Suicidal	Psychiatric Control	Non Patient
Interview 1				
Life Event Stress	13	12	9	6
Self- Competence	16	10	11	2
BSI-GSI	18	12	8	0
Interview 3				
Self- Competence	16	8	13	5
BSI-GSI	13	7	16	3

Table 30 - Group Differences in Social Support and the Wish to Die in Subjects High in Life Event Stress, Psychological Symptom Distress, or Low in Self-Competence.

Control Variable	Dependent Variable	df	Error Mean Square	F	p
Interview 1					
Life Event Stress	AVSI	3, 36	10.90	3.36	p<.05
	ADSI		13.78	1.68	NS
	AVAT		3.49	2.03	NS
	%ADAT		594.91	1.59	NS
	PSNI		7.83	2.81	NS
	VASCA		714.85	3.69	P<.05
	VASCB		1017.85	1.67	NS
	VASCC		938.95	2.53	NS
Interview 3					
Self-Competence	AVSI	3, 38	7.16	3.91	P<.05
	ADSI		11.13	2.27	NS
	AVAT		2.21	1.98	NS
	%ADAT		524.39	1.22	NS
	PSNI		12.00	1.21	NS
	VASCA		964.68	1.85	NS

	VASCC		1054.18	1.71	NS
BSI-GSI	AVSI	3, 35	7.73	1.64	NS
	ADSI		11.80	1.20	NS
	AVAT		2.82	2.18	NS
	%ADAT		527.21	1.42	NS
	PSNI		12.68	1.18	NS
	VASCA		1080.06	1.17	NS
	VASCB		754.18	1.44	NS
	VASCC		1175.60	0.89	NS

This finding does not demonstrate a direction of causation but its implications are that in the present study which has succeeded in replicating group differences in social support, it is not possible to disentangle the differences due to the nature of group membership, from other relevant variables of life event stress, self-competence, and psychological symptom distress. Adoption of the approach advocated by Brown (e.g. Brown, Andrews et al., 1986) with its investigator based ratings and focus on support mobilisation rather than only perceived support would serve to begin this process.

This study produced findings similar to those of Henderson (Henderson et al., 1981) where perceived adequacy of support rather than its

availability was of greatest significance. As the ISSI is respondent based and, thereby, open to a number of distortions in reporting, it is not clear whether these findings reflect the subject's dissatisfaction with what others might consider to be adequate levels of support or the attainment of little support. The validity of respondent-reported availability of particular categories of relationship and what they provide can be confirmed to some extent by interviewing an informant, but if there is a discrepancy between the two, interpretation is unclear. Closer examination of the actual support received with objective as well as subjective ratings in the manner of Brown (Brown, Andrews et al., 1986) is indicated.

The Islington study (Brown, Andrews et al., 1986) indicated that support mobilised at the actual time of crisis was critical, not the expectation of available support. However, Barrera (1986) has pointed out that measures of support recently received may confound the availability of support functions and the recent need for support (i.e. stress).

Reviewers (Cohen & Wills, 1985) consider the ISSI, even with its inclusion of the sub-scale concerned with social integration, to be a complex functional measure. In a further departure from the ISSI it has been suggested (Henderson & Brown, 1988) that material about particular individuals and particular dimensions should not be summed because the summation of effects cannot be assumed. Support from just one tie may at times fully compensate for lack of support in all others. The detailing of information about particular, especially what they term

core, relationships, which is then rated along a variety of dimensions is advocated.

7.7 Summary

The results of this final investigation provide further support for a relationship between deficits in social support and the occurrence of attempted suicide. These deficits do not appear to be distinct from those reported by non-suicidal psychiatric patients and are pertinent to a number of subtypes of the suicidal population.

There is also evidence of change in some social support variables following the attempt, while little change is reported by non-suicidal psychiatric and non-patient controls. The degree of change reported by a suicidal individual may be influenced by the presence and nature of psychiatric disorder. These changes are positive, and are generally more apparent on measures of adequacy or satisfaction rather than the availability of social support.

The proposition that reported group differences in social support could be attributed to group differences in factors such as recent life event stress, psychological symptom distress, or self-competence could not be discounted, on the basis of the analyses undertaken.

Chapter 8

Conclusions

Two aspects of the relationship between social support and suicidal behaviour have been considered in the studies comprising this thesis. The first concerns the association between social support deficits and the occurrence of a suicide attempt, while the second focuses on the consequences of an attempt for the social support available to the suicidal individual.

This series of analyses consistently demonstrated an association between social support deficits and attempted suicide but a causal relationship could not be determined given the nature of the design. In order to establish a causal rather than simply a correlational relationship, it would be necessary to establish the existence of support deficits prior to the occurrence of the attempt. The dubious validity of assessments concerned with the period prior to the attempt when assessment follows the act has been widely discussed elsewhere (e.g. Lester, 1972).

In the present investigations change in social support following the attempt was paralleled by change in suicidal intent. Whether or not this may be translated into an influence on the likelihood of repetition remains to be determined. Subsequent loss of the social gains achieved following the attempt was not observed. A longer follow-up may have revealed the impermanence of suicide generated gains, as has been noted in the literature (e.g. Stengel, 1969a). On the other hand it remains possible that the low levels of support recorded at the time of the attempt represented a temporary crisis response.

Little difference in social support deficits between identified suicidal subtypes was revealed by assessments undertaken at the time of the attempt, but subtype differences were suggested by the follow-up data. Non-suicidal psychiatric patients reported levels of social support which were similar to those of suicide attempters at the time of their attempt. Relative to the attempter, however, non-suicidal psychiatric patients reported less change in social support.

Further refinement of the hypotheses explored may be useful in relation to these findings. Reviews of the social support literature have identified a number of more specific research questions warranting investigation, including the role of different aspects of support as they apply to a range of different relationships (e.g. Lieberman, 1986; Veiel, 1985). For example, exploration of the psychiatric non-psychiatric dichotomy focussing on transactions in key relationships, or considering the time frame of existing deficits could uncover differences not revealed by a composite measure. Consideration of social support differences between a range of diagnostic subtypes is also indicated in view of the suggestion in the data of diagnostic group differences in social support change following the attempt.

Exploration of these and other specific research questions such as, whether or not lack of positive aspects of support has the same outcome as the presence of negative aspects of interaction, and whether core relationship support is of the same importance as non-core support, might be profitable. The answers would better identify the types of

support related to the occurrence of attempted suicide, and such findings would have greater relevance for the development of clinical intervention strategies.

Both availability and adequacy measures indicated relative deficits at the time of the attempt, but over the follow-up period change in social support seemed generally limited to adequacy and satisfaction measures. This finding suggests a number of propositions. It may be that the attempter was making judgements based on dimensions of social support other than availability or on the basis of changes in life event stress following the attempt. The focus of assessment on other objective dimensions of support such as the frequency of contact or the demonstrated occurrence of helping behaviours, and on ongoing monitoring of life event stress is indicated. In view of the fact that much of the social support data in this study was derived from a composite self-report measure, an intrapersonal locus of deficit and change must also be considered. In order to determine whether reported changes reflected environmental change more objective methods (e.g. significant other or investigator based ratings of social support) are required.

Consistent with recent reviews of the social support literature (e.g. Cohen & Wills, 1985; Monroe & Steiner, 1986; Starker, 1986), in this study it did not prove possible to disentangle the effects of social support from that of other variables such as life event stress, personality or symptom distress. There is wide acceptance of the need, in further exploration of the relationship between social support and disorder, to address the

characteristics of the individual. Attention has begun to be directed towards the cognitive approaches. This is particularly pertinent to further investigation of attempted suicide in view of the existing cognitive data on suicidal individuals, and the need to develop effective management strategies. Henderson (1988), for example, states that

The challenge now facing the discipline is to have a better understanding of this interface between the person and his social environment there is promise in the recent work on the fit between a person's habitual cognitive style and his or her current social environment. (p. 178)

The present investigation was concerned with the assessment of self-competence, a characteristic aligned with Bandura's (1978) social learning theory concept of self-efficacy. However, the assessment approach, in employing questionnaires, was more closely related to more traditional conceptualisations of personality. As noted in the previous chapter, a better assessment might be derived from Brown's (e.g. Brown, Andrews et al., 1986) focus on actual change in behaviour. Additionally, there may, therefore, be merit in exploring adaptations of S-R inventories (Endler & Hunt, 1966, 1969; Endler, Hunt, & Rosenstein, 1962; Endler, Magnusson, Ekehammer & Okada, 1975) which were developed within a social learning theory framework. These inventories, in which both the presented stimulus situation and possible subject responses are varied, allow both individual and situational differences to be tapped.

In order to design a study to partial out the effects of several variables such as life stress or personality on suicidal behaviour a number of options might be considered. The prospective study, much advocated in the analysis of the relationship between social support and psychiatric disorder, is less easily applied to suicidal behaviour. The relative infrequency of attempted suicide within the population, a behaviour which does not have the time span of many psychiatric disorders, would necessitate a sample of such size that the study might be rendered too costly.

A second option is the post hoc cross-sectional study of the present kind. By collecting a larger number of cases, particularly of individuals with high social support and a psychiatric history or low social support and no psychiatric history, it would be possible to assess changes in risk or suicidal behaviour with regard to these variables singly or in combination. Once again the large sample required would be difficult to achieve.

A third direction for future research, which is particularly well-suited to the study of behaviour with the characteristics and difficulties of attempted suicide is the increasing application of the single case study. Traditionally this has been descriptive in nature and unable to furnish a basis for generalisation to larger populations. With the adoption of an experimental approach the empirical validation of single cases has been demonstrated with a high degree of experimental rigour (Barlow & Hersen, 1984). A limiting factor in considering the relationship between

suicidal behaviour and changing social support with a longitudinal single case design is the small number of suicidal events within each life history. This would render a time series analysis unsatisfactory. Notwithstanding this reservation, the single case approach would have considerable utility in extending the body of knowledge concerned with suicidal behaviour, and in the subsequent evaluation of intervention procedures.

Daitzman and Levin (1977) give clear indication of the possibilities for the single case study in relation to the study of suicidal behaviour. Their use of a functional behavioural analysis serves to integrate with therapy the investigative function of the single case, detailing the conditions under which the behaviour occurs, and illustrating one avenue by which the prediction and prevention of attempted suicide may be ultimately accomplished. While a number of single case studies, employing the observation of overt behaviour, continuous assessment and the data to make decisions about treatment (Bostock & Williams, 1974; Daitzman & Levin, 1977; Elliot et al., 1972; O'Farrell et al., 1981), have made useful treatment evaluations, they remain isolated examples of viable treatment alternatives.

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Appendix A

Questionnaires employed in the course of this investigation.

Demographic and Background Data Checklist

Name..... Date.....

A. Data for subject matching

Sex.....

Age.....

Marital Status.....

Employed.....

Occupation..... Social Class.....

Psychiatric diagnosis

History of psychiatric treatment

B. Recent life events

Experience of the following stressful life events in the last 12 months

No=0 Yes=1

Illness

an illness requiring treatment from a doctor

chronic pain

hospitalisation of a family member

any incapacity

menopause

Pregnancy

pregnancy of yourself

of a child

of another family member

an unwanted pregnancy

a still birth/miscarriage

an abortion

Bereavement

anyone close to you died in last 12 months

a spouse or de facto

a child

another family member

a close friend

Family relationship change		
respondent became engaged	.....
family member became engaged or married	.....
respondent married with approval	.....
respondent's child leaves home	.....
new person in household	.....
respondent became divorced	.....
marital separation due to conflict or circumstance	.....
a reconciliation	.....
spouse has been unfaithful	.....
respondent began extra marital affair	.....
increased arguments with		
spouse	.....
mother	.....
father	.....
resident or non-resident family member	.....
some significant other person	.....
separation through circumstance from some		
significant other person	.....
ceased steady dating	.....
broken an engagement or relationship	.....
an immediate family member or close friend has		
begun drinking heavily/taking drugs	.....	.....
Alcohol abuse/illicit drug use		
periods of heavy drinking	.....
periods of drug taking	.....	.....
Employment/school change		
sat for an examination	.....
failed or felt that you failed academically	.....
begun or ceased full-time/part-time study	.....
changed school	.....
<i>(you or spouse)</i>		
became unemployed or begun employment	.....
retired	.....
fired	.....
demoted	.....
promoted	.....
changed work hours	.....
changed working conditions	.....
changed line of work	.....
had serious arguments with boss of co-workers		
<i>(serious or frequent)</i>	.....	.....

Financial		
moderate financial difficulties	.....
major financial difficulties	.....
business failure	.....
loss of a valued object	.....
taken a large loan	.....
purchase of a house	.....
increase in salary	.....
decrease by 25% or more	.....	.....

Legal involvement		
<i>(you or family members)</i>		
gaol sentence	.....
law suit	.....
court appearance	.....
minor legal violations	.....	.....

Mobility		
Move to another country	.....
inter-state move	.....
intra-state move	.....
period of homelessness	.....
holiday	.....	.....

C. Details of the suicidal attempt

No=0 Yes=1

Self-poisoning	
sedative	.....
psychotropic	.....
analgesic	.....
other medication or poison	.....
tablets but unknown type	.....

Self-injury	
gun	.....
gas	.....
precipitation	.....
blade/glass/knife	.....
drowning	.....

Impulsivity - had been thinking about taking tablets/injuring self

< 5 minutes	.....
< 1 hour	.....
< 1 day	.....
> 1 day	.....

Predictable untreated outcome

death certain	.....
death probable	.....
death unlikely	.....
death impossible	.....

Life Endangerment Index

Took the tablets/injured self	
in a remote place (1)	.....
at home or in a car (2)	.....
in a public place (2)	.....

At the time of attempt	
was alone (1)	.....
in view of or within calling distance of	
strangers (2)	.....
of others who knew you (2)	.....
with someone who knew you	.....

Seen by anyone
----------------	-------

Told anyone
-------------	-------

Anyone knew in the next half hour
-----------------------------------	-------

Thought would be found in next half hour
--	-------

Did nothing to prevent others finding out
---	-------

Wanted anyone to know what you were doing
---	-------

Thought you would survive	
no (1)	.....
don't know (2)	.....
yes	.....

Admitted self to hospital
---------------------------	-------

D. Scale exploring motivation for the attempt

Answer using a 3-point scale where

- 1 = not at all
- 2 = a little
- 3 = a great deal

At the time you took the tables/injured self did you,

Depression

- want to die
- feel there was no hope
- feel a failure
- feel you had let others down
- feel sad

Extrapunitive

- want to make him/her sorry
- feel angry
- think I'll show him/her
- feel you wanted to hurt him/her
- think it would upset him/her
- want to teach him/her a lesson

Alienation

- feel lonely
- feel (s)he didn't need you
- feel you'd been left out of things
- feel that you'd been hurt
- feel that (s)he wanted you out of the way

Operant

- want him/her to be different towards you
- hope (s)he would change
- feel that it was the only way to make him/her see
 what (s)he was doing to you
- feel it was a way of making others understand you
- feel you couldn't bear him/her to leave you

Modelling

think if others do it so can I	.....
has anyone in your family spoken about taking an overdose/injuring themselves	.....
know anyone else who took an overdose/injured themselves	.....
in the last month have you heard about taken an overdose/self-injury on television, radio, or read about it in newspapers or magazines	.....
did the fact that others do it affect you	.....	.....

Avoidance

feel you just had to get away from it all for a while	.....
feel you just wanted to die	.....
feel you had to get away while things straightened themselves out	.....
feel you couldn't put up with much more	.....
feel you wanted to leave it to others to sort out	.....	.....

Tension Reduction

feel so tense you had to do something	.....
did you feel anxious and feel it was the only way of coping	.....
did you feel less anxious after you had done it	.....	.....

Janus faced

feel you didn't really care if you lived or died	.....
feel uncertain if you wanted to live or die	.....
feel you would take a chance on whether you lived or died	.....
feel you wanted to live but you also wanted to die	.....	.....

E. Previous symptomatic behaviour

Suicidal threats in the last three months
---	-------

Previous attempts	.....
if yes, specify number	.....

Symptoms experienced in the last three months, where

- 0 = no
- 1 = occasionally
- 2 = frequently
- 3 = continuously for more than 1 month

insomnia	.....
depressed mood	.....
anorexia/loss of appetite	.....
anergia	.....
loss of libido/interests	.....
hypochondriasis	.....	.....

Interview Schedule for Social Interaction (ISSI)

First, I want to get some idea of the people around you in your life. This includes those you are closest to - your family, friends and neighbours - all the people you may meet from day to day. These first questions will be about people you know a little, but who are not close friends.

1. Now let's consider people you exchange a word or two with: that is, someone serving you in a shop or in an office, but whom you normally don't see apart from at their work. Most days, how many people like this do you see?

None.....	1
1-2.....	2
3-5.....	3
6-10.....	4
11-15.....	5
More than 15.....	6

2. Would you like more or less of this or is it about right?

Less.....	1
About right.....	2
More.....	3

I shall be asking this sort of question throughout this section - would you want more or less of this or is it about right.

3. On most days, how many people do you see whom you know just a little, to smile or wave to, or to say good morning to? People you do not know well - you may not know their names - but you greet each other when you pass by.

None.....	1
1-2.....	2
3-5.....	3
6-10.....	4
11-15.....	5
More than 15.....	6

4. Is this about right for you, or do you wish you saw more or fewer such people?

- Less..... 1
- About right.....2
- More.....3

5. These days, how many people with similar interests to you do you have contact with?

- None..... 1
- 1-2.....2
- 3-5.....3
- 6-10.....4
- 11-15.....5
- More than 15.....6

6. Would you like more or less of this or is it about right? (persons, duration or frequency)

- Less..... 1
- About right.....2
- More.....3

7. On your job, do you usually work with others or alone?

- Not employed (*Go to Q.10*)..... 0
- With others..... 1
- Depends on the situation.....2
- Alone..... 3

8. How often do you go out with the people at work?

- Never.....0
- Once a year..... 1
- A few times a year.....2
- Monthly.....3
- Weekly or more.....4
- Not applicable.....9

9. Would you like to go out together more or less than you do, or is this about right?

- Less..... 1
- About right.....2
- Depends on the situation.....3
- More.....4
- Not applicable.....9

10. In an ordinary week, how many people whom you know would you say you have contact with?

- None..... 1
- 1-2.....2
- 3-5.....3
- 6-10.....4
- 11-15.....5
- More than 15.....6

11. Would you like more or less of this or it is about right for you?
(persons, duration or frequency)

- Less..... 1
- About right.....2
- Depends on the situation.....3
- More.....4

12. At present, do you wish there were more, or less or are there about the right number of people in your day-to-day life?

- Less..... 1
- About right.....2
- Depends on the situation.....3
- More.....4

13. I have been talking about people you may know a little but not call them all close friends. At this time last year, would you have said there were more such people in your life than now, fewer than now, or about the same number as now?

- Fewer last year, more now..... 1
- Same.....2
- Depends on the situation.....3
- More last year, fewer now..... 4

Now I would like you to think about people you are close to who live in or near (*this town*). Close friends who are near enough physically so you can see them whenever you wish.

14. How many friends do you have who could come to your home at any time and take things as they find them - they wouldn't be embarrassed if the house were untidy or you were in the middle of a meal.

None..... 1
1-2.....2
3-5.....3
6-10.....4
11-15.....5
More than 15.....6

15. Would you prefer more or less of this or is it about right for you?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4

16. How many friends do you have whom you could visit at any time, without waiting for an invitation. You could arrive without being expected and still be sure you would be welcome.

None..... 1
1-2.....2
3-5.....3
6-10.....4
11-15.....5
More than 15.....6

17. Would you like to have more or fewer friends like this, or is it about right for you?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4

18. Overall, would you say you belong to a close circle of friends - a group of people who all keep in close touch with each other - or not?

Yes..... 1
Qualified response..... 2
No..... 3

19. Would you like more or less of this or is this about right for you?
(persons, duration or frequency)

- Less..... 1
- About right.....2
- Depends on the situation.....3
- More.....4

20. People differ in how much they need friendship. Would you say you are the sort of person who can manage without friends or not?

- Cannot manage without 1
friends (*Go to Q.21*)
- Depends on the situation.....2
- Can manage without friends..... 3

A. Do you prefer to do without friends or would you prefer to have them?

- Do without..... 1
- Have them.....2
- Not applicable.....9

Now please think about all the people in your life who live in or near (*this town*). This includes the people you live with, your family and your friends.

21. Among your family and friends, how many people are there who are immediately available to you whom you can talk with frankly, without having to watch what you say?

- None (*Go to Q.21D*)..... 1
- 1-2.....2
- 3-5.....3
- 6-10.....4
- 11-15.....5
- More than 15.....6

A. Would you like to have more or less people like this or is it about right for you?

- Less..... 1
- About right.....2
- Depends on the situation.....3
- More.....4
- Not applicable.....9

B. With the one (those) you have, would you like to feel more free to be frank or is it about right?

About right..... 1
Depends on the situation..... 2
More free..... 3
Not applicable..... 9

C. Who is this *mainly*? (*Fill in one only on the Attachment Table*)

(Go to Q.22)

D. Do you wish there were someone or not?

Yes..... 1
Don't know..... 2
No..... 3
Not applicable..... 9

22. If something unpleasant or irritating happens and you get upset or angry about it, do you have someone you can go to who isn't involved and tell them just how you feel, or not?

Yes..... 1
Depends on the situation..... 2
No (*Code 0 for number, and go to Q.22C*)..... 3

A. How many people like this are there?

Number..... —

B. Do you wish you had more or fewer people like this or is this about right?

Fewer..... 1
About right..... 2
Depends on the situation..... 3
More..... 4
Not applicable..... 9

(Go to Q.23)

(If no one)

C. Is there no one you can go to in that situation or do you prefer to keep such things to yourself?

No one..... 1
Depends on the situation.....2
Keep things to yourself.....3
Not applicable.....9

23. These last questions were about close friends and people you know really well. At this time last year, did you have more or fewer people or about the same number?

Fewer last year, more now..... 1
Same.....2
Depends on the situation.....3
More last year, fewer now..... 4

24. And would you say that the quality of friendships you had a year ago was as good, less good, or better?

Less good a year ago.....1
Same (Go to Q.25).....2
Depends on the situation.....3
Better a year ago.....4

A. What would you say is the main reason for this?

(Record verbatim)

25. Now I want you to think about everybody in (*this town*) to whom you are close. Considering those you live with, you family and friends, who *above all* would you say you are closest to, fondest of, most attached to? Who would be next? Anyone else? (*Fill in on Attachment Table for each person mentioned*)

26. Would you say you have a single, lasting relationship, someone you intend to go on sharing your life with or not?

No one (*Go to Q.26C*).....

Yes.....

A. Who is this? (*Fill in only one on Attachment Table*)

B. Do you wish you felt more certain of this or not?

Yes..... 1

No..... 2

Not applicable.....9

(*Go to Q.27*)

(*If no one*)

C. Do you wish there were someone or do you prefer to be unattached right now?

Wishes there was someone..... 3

Don't know.....2

Prefers to be unattached..... 1

Not applicable.....9

27. Is there anyone very important to you whom you are not longer in close touch with?

No (*Go to Q.28*).....

Yes.....

A. Who is it? (*Fill in only one on Attachment Table*)

B. Why don't you see him/her any more?

Died..... 1

Moved away..... 2

Conflict..... 3

Other (specify)..... 4

Not applicable.....9

C. When did this occur?

Months ago.....

Years ago.....

(If died)

D. Would you say you still think about this person?

Not at all..... 1
A little..... 2
Most days..... 3
All the time..... 4
Not applicable..... 9

28. May I ask if anyone (or anyone else) close to you has died in the last few years?

No (Go to Q.29).....
Yes.....

A. Who was it? (Fill in only one on Attachment Table)

B. When was that?

Months ago.....
Years ago.....

C. Would you say you still think about this person?

Not at all..... 1
A little..... 2
Most days..... 3
All the time..... 4
Not applicable..... 9

29. Now I would like to ask if there is anyone who lives in or near (this town) who knows you well as a person. (This includes friends as well as family members.)

No one (Go to Q.29E)..... 1
Yes (qualified)..... 2
Yes.....3

A. Who is this? (Fill in only one on Attachment Table)

B. Would you say _____ really knows you very well indeed?

Yes..... 1
No.....2
Not applicable..... 9

C. Do you wish _____ did not know you quite so well, knew you better, or is it about right?

Less..... 1
About right.....2
Depends on the situation.....3
Better..... 4
Not applicable..... 9

D. Would you like to have someone else like this or not?

Yes.....1
Don't know.....2
Depends on the situation.....3
No..... 4
Not applicable..... 9

(Go to Q.30)

(If no one)

E. Do you wish there were someone or not?

Yes.....1
Don't know.....2
No..... 3
Not applicable..... 9

30. Is there any particular person you feel you can lean on?

No one *(Go to Q.30D)*..... 1
Yes, but don't need anyone..... 2
Yes..... 3

A. What is his/her name? *(Fill in only one on the Attachment Table)*

B. Would you like to be able to lean more or less on _____?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4
Not applicable..... 9

C. Would you like to have someone else like this or is he/she enough?

Yes.....1
Don't know.....2
Enough.....3
Not applicable.....9

(Go to Q.31)

(If no one)

D. Is it that you have no need for such a person or do you wish there were someone?

Wish there were.....1
Don't know.....2
No need.....3
Not applicable.....9

31. Do you feel there is one particular person who feels very close to you?

No one (Go to Q.31D).....1
Not sure.....2
Yes.....3

A. Who is this mainly? (Fill in only one on Attachment Table)

B. Would you like _____ to feel closer, or not so close to you, or is it about right the way it is?

Closer.....1
About right.....2
Depends on the situation.....3
Not so close.....4
Not applicable.....9

C. Would you like to have more or fewer people like this or is this about right?

Fewer.....1
About right.....2
More.....3
Not applicable.....9

(Go to Q.32)

(If no one)

D. Do you wish there were someone or not?

Yes..... 1
Don't know.....2
No.....3
Not applicable..... 9

32. When you are happy, is there any particular person you can share it with - someone whom you feel sure will feel happy simply because you are?

No one (Go to Q.32D)..... 0
Yes..... 1

A. Who is this mainly? (Fill in only one on Attachment Table)

B. Would you like to feel this more with _____ or is it about right?

About right.....1
More.....2
Not applicable..... 9

C. Would you like to have someone else like this or is this enough?

Yes..... 1
Don't know.....2
Enough.....3
Not applicable..... 9

(Go to Q.33)

(If no one)

D. Do you wish there were someone or not?

Yes..... 1
Don't know.....2
No.....3
Not applicable..... 9

33. At present, do you have someone you can share your most private feelings with (confide in) or not?

No one (Go to Q.33D)..... 0
Yes..... 1

A. Who is this mainly? *(Fill in only one on Attachment Table)*

B. Do you wish you could share more with _____ or is it about right?

About right..... 1
Depends on the situation..... 2
More..... 3
Not applicable..... 9

C. Would you like to have someone else like this as well, would you prefer not to use a confidant, or is it just about right for you the way it is?

Prefers no confidant..... 1
About right..... 2
Depends on the situation..... 3
Like someone else as well..... 4
Not applicable..... 9

(Go to Q.34)

(If no one)

D. Would you like to have someone like this or would you prefer to keep your feelings to yourself?

Keep things to self..... 1
Like someone..... 2
Not applicable..... 9

34. Are there ever times when you are comforted by being held in someone's arms or not?

No *(Go to Q.34C)*..... 0
Yes..... 1

A. By whom mainly? *(Fill in only one on Attachment Table)*

B. Is there anyone you'd like to comfort you more in this way or is it all right the way it is?

All right as is..... 2
Yes..... 1
Not applicable..... 9

(Go to Q.35)

C. Is this because there is no one to hold you or because you prefer not being comforted that way?

No one..... 2
Prefer it that way..... 1
Not applicable..... 9

35. Now, I have been talking about those persons (the person) who are (is) closest to you. At this time last year, would you say that you and _____ were closer, less close, or about the same?

(Code these on the Attachment Table. Ask about each of the first 4 people mentioned regardless of the question which elicited the information.)

(If response is not "about the same" for all 4 people, ask Q.35A.)

A. What would you say are the main reasons for change?

36. Recently have you been having any unpleasantness or rows with anyone close to you?

No (Go to Q.37).....
Yes.....

A. Who is this? *(Fill in up to 3 names on Attachment Table)*

(For each person)

B. Would you describe this row or unpleasantness as mild, moderate, or severe? *(Code this on the Attachment Table)*

37. How many people are there for whose *care* you are needed? Persons who are solely dependent on you in their day-to-day life.

Number *(If none, code 0)*.....

38. Would you like to have more or less of this in your life, or is it about right?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4

39. Still thinking of people in or near (*this town*), your family and everyone else - how many people are there who depend on *you* particularly for help, or guidance, or advice in day-to-day life?

Number (*If none, code 0*)..... _

40. Would you like to have more or less of this in your life, or is it about right?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4

(If Respondent lives alone, go to Q.42)

41. Do you think those at home *really* appreciate what you do for them, or not?

Yes.....1
Not really.....2
Depends on the situation.....3
Not at all.....4
Not applicable..... 9

A. Would you like *any* of them to show appreciation more, or less, or is it about right?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4
Not applicable..... 9

42. Are there any (other) people outside your home who really appreciate what you are doing for them?

No (Code 0 for number,..... __
and go to Q.43)

Yes.....__

A. How many?

Number..... __

43. Would you like more of this, or less, or is it about right?

Less..... 1

About right.....2

Depends on the situation.....4

44. Do people *tell* you that you are good at doing some things, or not?
Being praised (commended) for something you're good at, in the home, at work or elsewhere.

No (Code 0 for number,..... __
and go to Q.45)

Yes.....__

A. How many?

Number..... __

45. Would you like more of this, or less, or is it about right?

Less..... 1

About right.....2

Depends on the situation.....3

More.....4

46. Are there people around from whom you can easily ask small favours? Such as people you know well enough to borrow tools or things for cooking.

No (Code 0 for number,..... __
and go to Q.47)

Yes.....__

A. How many?

Number..... __

47. Would you like to have more of this, or less, or is it about right?

Less..... 1
About right.....2
Depends on the situation.....3
More.....4

48. (Apart from those at home) are there people in (*this town*) to whom you can turn in times of difficulties? Someone you can see fairly easily whom you could trust and whom you could expect real help from in times of trouble?

No (*Code 0 for number,..... and go to Q.49*) ____
Yes.....__

A. How many?

Number..... __

49. Do you wish you had more of such help available or is it about right?

About right.....1
Depends on the situation.....2
More.....3

50. When things are difficult, do you find it more helpful to be with someone or to be by yourself?

Be with someone..... 1
Depends on the situation.....2
Be by yourself..... 3

51. How many people whom you have to see regularly do you dislike?

Number (*If none, code 0*)..... __

52. Recently, have some things been unpleasant for you with any people *outside your home*?

No.....2
Yes.....1

FILL IN THIS INFORMATION FOR EACH PERSON MENTIONED IN Q. 21, Q.25-26.

[illegible]

[illegible]

Visual Analogue Scales

Date.....

Time.....

Name.....

These scales look at how you feel, right now. Please complete on your own without help from anyone else. The best time to do this is at the end of the day, perhaps just after dinner.

Mark each line at the point which best describes how you feel. A mark near the middle means no particular feelings one way or another about the situation in question.

1. With respect to things in general I feel:

completely contented

completely discontented



2. With respect to things between and me I feel:

completely contented

completely discontented



3. At the moment, I:

want to live

want to die



LIFE EVENTS SCALE

Would you tell me if any of the following things have happened to you in the last twelve months?

✓ = Yes

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
HEALTH (Men and Women)				
1.	You had a minor illness or injury like one needing a visit to a doctor or a couple of days off work.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2.	You had a serious illness, injury or operation needing hospitalisation or a month or more off work.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
3.	A close relative had a serious illness (from which they did not die).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
4.	You are pregnant (with a wanted pregnancy).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
(Women Only)				
5.	You are pregnant (with an unwanted pregnancy).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
6.	You had a stillbirth.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
7.	You had an abortion or miscarriage.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
8.	You had a baby.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
9.	Your change of life (menopause) began.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
10.	You adopted a child.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
(Men Only)				
11.	Your wife had a child or you adopted a child.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
BEREAVEMENT (Men and Women)				
12.	Your wife/husband died.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
13.	A child of yours died.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
14.	A close family member died (eg parent, brother, etc.).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
15.	A close family friend or relative died (eg aunt, uncle, grandmother, cousin, etc.).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

FAMILY AND SOCIAL
(if you are or were married)

16.	You married.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
17.	There has been increasing serious arguments with your wife/ husband.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
18.	There has been a marked improvement in the way you and your wife/husband are getting on.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
19.	You have been separated from your husband/wife for more than a month because of marital difficulties.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
20.	You have been separated from your wife/husband for more than a month (for reasons other than marital difficulties).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
21.	You have got back together again after a separation due to marital difficulties.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
22.	You began an extramarital affair.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
23.	Your wife/husband began an extramarital affair.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
24.	You have been divorced.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
	(If you have or had children)			
25.	A child of yours became engaged.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
26.	A child of yours married with your approval.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
27.	A child of yours married without your approval.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
28.	A child of yours left home for reasons other than marriage.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
29.	A child of yours entered the armed services.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
	(If you are single)			
30.	You became engaged or began a "steady" relationship.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
31.	You broke off your engagement.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
32.	You broke off a "steady" relationship.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
33.	You had increasing arguments or difficulties with your fiance or steady friend.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
FRIENDS AND RELATIVES				
34.	A new person came to live in your household (apart from a new baby).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
35.	There has been a marked improvement in the way you get on with someone close to you (excluding husband and wife).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
36.	You have been separated from someone important to you (other than close family members).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
37.	There has been a serious increase in arguments or problems with someone who lives at home (excluding husband or wife).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
38.	There has been serious problems with a close friend, neighbour or relative not living at home.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

EDUCATION

39.	You started a course (ie University, Tech College, Business College, apprenticeship or other occupational training course).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
40.	You changed to a different course.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
41.	You completed your training programme.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
42.	You dropped out of your training programme.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
43.	You studied for, or did, important exams.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
44.	You failed an important exam.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

WORK

45.	You have been unemployed and seeking work for a month or more.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
46.	Your own business failed.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
47.	You were sacked.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
48.	You retired.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
49.	You were downgraded or demoted at work.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
50.	You were promoted.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
51.	You began to have trouble or disagreements with your boss, supervisor or fellow workers.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
52.	You had a big change in the hours you worked.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
53.	You had a big change in the people, duties or responsibilities in your work.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
54.	You started in a completely different type of job.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
55.	You had holidays for a week or more.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

MOVING HOUSE

56.	You moved to Hobart from overseas.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
57.	You moved to Hobart from elsewhere in Australia.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
58.	You moved house in Hobart.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

FINANCIAL AND LEGAL

59.	You had moderate financial difficulties.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
60.	You had a major financial crisis.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
61.	You are much better off financially.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
62.	You were involved in a traffic accident that carried serious risk to the health of yourself or others.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
63.	You had minor difficulties with the police or authorities (which has not required a court appearance [eg speeding fine, etc]).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

	<u>Event</u>		<u>Date</u> (month/year)	<u>Distress</u> <u>Scaling</u>
64.	You had more important problems with the police or the authorities (leading to a court appearance).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
65.	You had a jail sentence or were in prison.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
66.	You were involved in a civil law suit (eg divorce, debt, custody, etc.).	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
67.	Something you valued or cared for greatly was stolen or lost.	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Cumulative Scaled Life Events Score				<input type="text"/>

The support we receive from family, friends, professional helpgivers, and others during times of stress seems to play an important role in determining our reaction to that stress. The interaction that we have with supportive individuals appears to help us feel better

faster after flunking an exam, losing a job, or experiencing conflict with someone. This questionnaire attempts to gather information about your perceptions and experiences with your support network in response to stressful events that have occurred in your life.

Support Network

Write the first name and last initial of all the people you would go to if you needed support or help during a stressful time in your life. Check the appropriate column

that describes your relationship with each person. You do not have to fill out this list in any order. You do not have to use all the spaces available.

First name, Last initial	Spouse or Partner	Family Member	Friend	Co- worker	Professional Helpgiver (eg doctor, lawyer, counselor)	Religious Leader	Self-help gp member (eg AA , etc)

Helping Behaviors

Support from people during stressful events can be broken down into five categories of helping behaviors:

- a) Emotional support - someone listening to your private thoughts and feelings regarding a stressful event and/or giving you physical affection.

b) Material aid support - someone lending you money or the use of some valuable object like a care of an appliance during a stressful event.
- c) Advice and information - someone suggesting what to do or where to get needed information during a stressful event.

d) Physical assistance - someone helping you with jobs around the house, errands, or favors you might need during a stressful event.

e) Social participation - someone offering you the opportunity to engage in pleasant social activities during a stressful event.

Support Network Information

On the following pages are questions about the people whose names you wrote down on the Support Network list. Please write the first name and last initial of the first person you listed and answer the questions about him/her. Then write the first name

and last initial of the second person you listed and answer the questions about him/her. Go through your entire Support Network list. Each set of questions for each person takes less than a minute to answer, so the following pages will not take you long.

First name, last initial _____

Rate the extent to which you agree with the following statements by circling the appropriate number.

<u>During times of stress:</u>	Almost never		Sometimes		Usually		Almost always.	
I seek this person out for support or help.	1	2	3	4	5	6	7	
This person provides me with support or help when I ask.	1	2	3	4	5	6	7	
I am satisfied with this person's support or help	1	2	3	4	5	6	7	

Place a check next to the categories of support you might expect to received from this person during times of stress:

_____ a) Emotional Support _____ b) Advice and Information _____ e) Social Participation
_____ b) Material Aid Support _____ c) Physical Assistance

This person receives support from me during time of stress for him/her.

1	2	3	4	5	6	7
Almost never		Sometimes		Usually		Almost Always

Generally speaking, I have serious conflicts with this person.

7	6	5	4	3	2	1
Almost never		Sometimes		Usually		Almost Always

- Name.....
- Sex..... ● Age.....
- Occupation.....
- Date.....

ELEMENT S

S

WILL SCHUTZ

INSTRUCTIONS

- Element S is designed to assist me to become more aware of how I am choosing to be at this time with regard to my behavior and feelings toward myself. There are no "right" or "wrong" answers. The more honest I am the more information I receive from Element S.
- First, for the columns on the left, I complete the section entitled. I describe the situation from my point of view
- For each statement, I place an X in one of the six shaded boxes, at the **left** of the item. The boxes indicate how much I **agree** with the item. The more I agree, the more I use the lighter boxes.
- When I have completed the left hand columns for all items, I return to the top of the page and complete the section entitled Here I describe the situation the way I would like it to be.
- For each statement, I place an X in one of the six shaded circles, at the **right** of the item. The more I agree with the item, the more I use the lighter boxes.
- Definitions of the relevant terms may be helpful.

present	= focused, know what is happening
control	= take charge, influence
aware	= know my feelings, aware of body
significant	= important, meaningful
competent	= capable, able to cope
like	= feel good with, enjoy company of

- Now I turn over the back page and begin.

WHAT I SEE

Disagree

Agree

WHAT I WANT

Agree

Disagree

ELEMENT S

WHAT I SEE

WHAT I WANT

Disagree

Agree

Agree

Disagree

	<input type="checkbox"/>	I frequently stop listening and drift off	
	<input type="checkbox"/>	I feel I cannot rely on my own judgment	
	<input type="checkbox"/>	I have no secrets from myself	
	<input type="checkbox"/>	I feel I am important	
	<input type="checkbox"/>	I am too controlled	
	<input type="checkbox"/>	I feel warmth toward myself	
	<input type="checkbox"/>	I sometimes forget what is happening	
	<input type="checkbox"/>	I trust my own abilities	
	<input type="checkbox"/>	There are things about myself I would rather not know	
	<input type="checkbox"/>	I feel insignificant	
	<input type="checkbox"/>	I measure everything carefully before I do it	
	<input type="checkbox"/>	I feel affectionate toward myself	
	<input type="checkbox"/>	I sometimes feel dead	
	<input type="checkbox"/>	I am suspicious of my own competence	
	<input type="checkbox"/>	I do not know myself well	
	<input type="checkbox"/>	I feel like an important person	
	<input type="checkbox"/>	I control myself	
	<input type="checkbox"/>	I like myself	
	<input type="checkbox"/>	I give my full attention to what is happening	
	<input type="checkbox"/>	I admire my abilities	
	<input type="checkbox"/>	I am aware of all my feelings	
	<input type="checkbox"/>	I feel I am an interesting person	
	<input type="checkbox"/>	I am always in charge of myself	
	<input type="checkbox"/>	I feel personally distant from myself	
	<input type="checkbox"/>	I drift off	
	<input type="checkbox"/>	I have confidence in my own abilities	
	<input type="checkbox"/>	I sometimes hide things from myself	
	<input type="checkbox"/>	I feel worthy of attention	
	<input type="checkbox"/>	I sometimes get out of control	
	<input type="checkbox"/>	I feel I am not a nice person	
	<input type="checkbox"/>	I am easily distracted	
	<input type="checkbox"/>	I can depend on my own judgment	
	<input type="checkbox"/>	I know myself well	
	<input type="checkbox"/>	I feel I am a stimulating person	
	<input type="checkbox"/>	I do not take chances	
	<input type="checkbox"/>	I hate myself	
	<input type="checkbox"/>	I feel fully alive	
	<input type="checkbox"/>	I am skeptical of my abilities	

WHAT I SEE
















































































WHAT I WANT

































































































Disagree

Agree

Agree

Disagree

- | | | | | | |
|--|---|---|---|---|--|
|  |  |  |  |  | <input type="checkbox"/> I figure out my hidden motives |
|  |  |  |  |  | <input type="checkbox"/> I feel like a significant individual |
|  |  |  |  |  | <input type="checkbox"/> I take no risks |
|  |  |  |  |  | <input type="checkbox"/> I do not like myself |
|  |  |  |  |  | <input type="checkbox"/> I am scattered |
|  |  |  |  |  | <input type="checkbox"/> I do not trust my competence |
|  |  |  |  |  | <input type="checkbox"/> I am aware of the negative things I feel about myself |
|  |  |  |  |  | <input type="checkbox"/> I feel like an unimportant person |
|  |  |  |  |  | <input type="checkbox"/> I am undisciplined |
|  |  |  |  |  | <input type="checkbox"/> I feel very friendly toward myself |
|  |  |  |  |  | <input type="checkbox"/> I have trouble concentrating |
|  |  |  |  |  | <input type="checkbox"/> I trust my own competence |
|  |  |  |  |  | <input type="checkbox"/> I keep some things hidden from myself |
|  |  |  |  |  | <input type="checkbox"/> It does not matter whether I live or die |
|  |  |  |  |  | <input type="checkbox"/> I keep myself under tight control |
|  |  |  |  |  | <input type="checkbox"/> I feel like a nice person |

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BSI

Name: _____ Patient No.: _____ Technician _____
 Location: _____ Visit No.: _____ Mode: S-R _____ Nar _____
 Age: _____ Sex: M ___ F ___ Date: _____ Remarks: _____

INSTRUCTIONS

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select one of the numbered descriptors that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PASTINCLUDING TODAY. Place that number in the open block to the right of the problem. Do not skip any items, and print your number clearly. If you change your mind, erase your first number completely. Read the example below before beginning, and if you have any questions ask the technician.

EXAMPLE

HOW MUCH WERE YOU
DISTRESSED BY:

Descriptors

- 0 Not at all
- 1 A little bit
- 2 Moderately
- 3 Quite a bit
- 4 Extremely

Answer

EX. Body Aches.....Ex. ☐

HOW MUCH WERE YOU
DISTRESSED BY:

Descriptors

- 0 Not at all
- 1 A little bit
- 2 Moderately
- 3 Quite a bit
- 4 Extremely

HOW MUCH WERE YOU DISTRESSED BY:

- 1. Nervousness or shakiness inside ☐
- 2. Faintness or dizziness ☐
- 3. The idea that someone else can control your thoughts ☐
- 4. Feeling others are to blame for most of your troubles ☐
- 5. Trouble remembering things ☐
- 6. Feeling easily annoyed or irritated ☐
- 7. Pains in heart or chest ☐
- 8. Feeling afraid in open spaces ☐
- 9. Thoughts of ending your life ☐
- 10. Feeling that most people cannot be trusted ☐
- 11. Poor appetite ☐
- 12. Suddenly scared for no reason ☐
- 13. Temper outbursts that you could not control ☐
- 14. Feeling lonely even when you are with people ☐

- 15. Feeling blocked in getting things done ☐
- 16. Feeling lonely ☐
- 17. Feeling blue ☐
- 18. Feeling no interest in things ☐
- 19. Feeling fearful ☐
- 20. Your feelings being easily hurt ☐
- 21. Feeling that people are unfriendly or dislike you ☐
- 22. Feeling inferior to others ☐
- 23. Nausea or upset stomach ☐
- 24. Feeling that you are watched or talked about by others ☐
- 25. Trouble falling asleep ☐
- 26. Having to check and doublecheck what you do ☐
- 27. Difficulty making decisions ☐
- 28. Feeling afraid to travel on buses, subways, or trains ☐

29. Trouble getting your breath	<input type="checkbox"/>	42. Feeling very self-conscious with others	<input type="checkbox"/>
30. Hot or cold spells	<input type="checkbox"/>	43. Feeling uneasy in crowds	<input type="checkbox"/>
31. Having to avoid certain things, places, or activities because they frighten you	<input type="checkbox"/>	44. Never feeling close to another person	<input type="checkbox"/>
32. Your mind going blank	<input type="checkbox"/>	45. Spells of terror or panic	<input type="checkbox"/>
33. Numbness or tingling in parts of your body	<input type="checkbox"/>	46. Getting into frequent arguments	<input type="checkbox"/>
34. The idea that you should be punished for your sins	<input type="checkbox"/>	47. Feeling nervous when you are left alone	<input type="checkbox"/>
35. Feeling hopeless about the future	<input type="checkbox"/>	48. Others not giving you proper credit for your achievements	<input type="checkbox"/>
36. Trouble concentrating	<input type="checkbox"/>	49. Feeling so restless you couldn't sit still	<input type="checkbox"/>
37. Feeling weak in parts of your body	<input type="checkbox"/>	50. Feelings of worthlessness	<input type="checkbox"/>
38. Feeling tense or keyed up	<input type="checkbox"/>	51. Feelings that people will take advantage of you if you let them	<input type="checkbox"/>
39. Thoughts of death or dying	<input type="checkbox"/>	52. Feelings of guilt	<input type="checkbox"/>
40. Having urges to beat, injure, or harm someone	<input type="checkbox"/>	53. The idea that something is wrong with your mind	<input type="checkbox"/>
41. Having urges to break or smash things	<input type="checkbox"/>		

Appendix B

Statement of Informed Consent

Statement of Informed Consent

The general purpose of this investigation, together with the nature and duration of my involvement have been explained to me. I fully understand that:

1. This is primarily a research rather than therapeutic programme, and that my participation is on a voluntary basis.
2. I may withdraw from the study at any time without adversely affecting any treatment that I may be receiving, and
3. Information concerning any individual is available only to the interviewer, and that identifying information will be held by the interviewer only during the period of my participation in the project.

Signed:

Date:

Appendix C

**Visual Analogue Scale Group Means
and Standard Deviations**

Table C-1 - Visual Analogue Scale Group Means and Standard Deviations over the Period of Study for the Suicidal and the Nonsuicidal Groups.

Group	Time						
	0	1	2	3	4	5	6
VASCA							
Suicidal Group	40.40 (28.93)	42.89 (27.07)	50.39 (28.43)	60.75 (29.29)	61.00 (30.49)	59.44 (36.01)	65.39 (31.58)
Nonsuicidal Group	71.25 (19.52)	65.71 (24.61)	73.12 (23.16)	76.08 (21.24)	76.98 (19.78)	76.90 (22.10)	82.08 (18.41)
VASCB							
Suicidal Group	53.64 (33.84)	50.73 (35.56)	49.33 (34.34)	57.46 (33.34)	60.40 (33.80)	57.73 (37.03)	61.44 (36.19)
Nonsuicidal Group	79.42 (22.15)	76.02 (22.68)	80.14 (19.61)	83.48 (16.88)	84.25 (16.38)	82.81 (19.42)	86.81 (16.29)
VASCC							
Suicidal Group	63.56 (36.55)	65.00 (36.93)	69.48 (35.14)	77.14 (28.40)	77.98 (32.49)	73.10 (36.71)	77.98 (35.52)
Suicidal Group	93.17 (13.51)	87.40 (17.86)	87.37 (20.79)	92.44 (12.05)	91.21 (13.59)	90.67 (14.92)	92.65 (13.58)

Table C-2 Visual Analogue Scale Group Means and Standard Deviations over the Period of Study for the Suicidal Sub-groups Produced by Cluster Analysis and the Non-suicidal Control Group.

Group	Time						
	0	1	2	3	4	5	6
VASCA							
Depressed Suicidal	28.44 (30.09)	35.39 (25.58)	45.67 (34.49)	58.94 (31.62)	55.78 (28.40)	52.72 (31.42)	57.78 (32.17)
Modelled Suicidal	46.46 (29.80)	44.50 (25.00)	54.00 (21.99)	61.12 (28.92)	62.42 (32.50)	58.58 (39.92)	67.46 (32.08)
Operant Suicidal	47.63 (12.81)	54.50 (34.76)	49.25 (34.10)	63.63 (28.61)	68.13 (30.10)	77.38 (29.57)	75.75 (28.07)
Non Suicidal	71.25 (19.52)	65.71 (24.61)	73.12 (23.16)	76.08 (21.24)	76.98 (19.78)	76.90 (22.10)	82.08 (18.41)
VASCB							
Depressed Suicidal	53.78 (32.62)	41.22 (35.90)	46.56 (33.95)	49.39 (34.51)	55.06 (33.61)	51.06 (34.02)	52.39 (37.75)
Modelled Suicidal	58.42 (33.72)	57.92 (37.81)	56.73 (33.74)	64.85 (32.66)	65.54 (34.22)	66.23 (36.27)	69.92 (32.72)
Operant Suicidal	37.75 (36.43)	48.75 (23.41)	31.50 (33.76)	51.63 (31.39)	55.75 (34.64)	45.13 (43.78)	54.25 (41.48)
Non Suicidal	79.42 (22.15)	76.02 (22.68)	80.14 (19.61)	83.48 (16.88)	84.25 (16.38)	82.81 (19.42)	86.81 (16.29)

VASCC

Depressed	48.61	60.67	65.83	83.33	78.06	74.94	73.67
Suicidal	(39.46)	(37.09)	(40.09)	(22.46)	(32.86)	(37.15)	(40.14)
Modelled	71.46	67.15	71.77	71.96	73.85	67.23	73.81
Suicidal	(35.51)	(39.89)	(33.69)	(32.59)	(35.44)	(39.73)	(35.91)
Operant	71.50	67.75	70.25	80.00	91.25	88.00	93.25
Suicidal	(23.81)	(28.93)	(31.41)	(25.51)	(17.93)	(20.89)	(17.50)
Non	93.17	87.40	87.37	92.44	91.21	90.67	92.65
Suicidal	(13.51)	(17.86)	(20.79)	(12.05)	(13.59)	(14.92)	(13.58)

Table C-3 Visual Analogue Scale Group Means and Standard Deviations over the period of Study for the Psychiatric and Non-Psychiatric (Non-Psy) Suicidal Sub-groups and the Non-Suicidal Control Group.

Group	Time						
	0	1	2	3	4	5	6
VASCA							
Psychiatric Suicidal	36.36 (29.47)	40.24 (32.62)	46.56 (33.35)	61.52 (30.96)	50.80 (33.92)	41.80 (34.32)	47.96 (31.86)
Non-Psy. Suicidal	44.15 (28.46)	45.33 (21.02)	53.93 (23.05)	60.04 (28.23)	70.44 (23.84)	75.78 (29.67)	81.52 (21.38)
Non Suicidal	71.25 (19.52)	65.71 (24.61)	73.12 (23.16)	76.08 (21.24)	76.98 (19.78)	76.90 (22.10)	82.08 (18.41)
VASCB							
Psychiatric Suicidal	55.80 (35.64)	47.60 (38.58)	46.84 (33.15)	55.20 (31.74)	52.80 (36.25)	41.88 (36.55)	48.36 (38.73)
Non-Psy. Suicidal	51.63 (32.64)	53.63 (33.00)	51.63 (35.88)	59.56 (35.22)	67.44 (30.34)	72.41 (31.49)	73.56 (29.45)
Non Suicidal	79.42 (22.15)	76.02 (22.68)	80.14 (19.61)	83.48 (16.88)	84.25 (16.38)	82.81 (19.42)	86.81 (16.29)
VASCC							
Psychiatric Suicidal	60.44 (38.54)	55.88 (41.34)	59.96 (40.84)	69.56 (32.66)	63.52 (38.82)	57.48 (38.96)	59.12 (41.52)
Non-Psy. Suicidal	66.44 (35.09)	73.44 (30.71)	78.30 (26.74)	84.15 (22.17)	91.37 (17.10)	87.56 (28.11)	93.07 (17.55)
Non Suicidal	93.17 (13.51)	87.40 (17.86)	87.37 (20.79)	92.44 (12.05)	91.21 (13.59)	90.67 (14.92)	92.65 (13.58)

Table C-4 Group Means and Standard Deviations for the Three Visual Analogue Scales Administered to Psychiatric and Non-Psychiatric (Nonpsy) Suicidal Groups and to Psychiatric and Non-Patient Control Groups over the Period of Study.

Group	Time						
	0	1	2	3	4	5	6
VASCA							
Psychiatric Suicidal	38.00 (29.78)	41.65 (33.54)	53.30 (37.29)	58.20 (37.02)	56.65 (34.46)	60.20 (33.52)	61.05 (32.84)
Nonpsy. Suicidal	43.90 (29.48)	61.20 (26.78)	63.80 (31.62)	73.40 (26.46)	72.20 (27.89)	72.05 (31.63)	84.55 (22.57)
Nonsuicidal Psychiatric	43.20 (21.70)	46.30 (24.37)	60.70 (23.48)	57.00 (32.65)	62.05 (32.98)	52.55 (31.34)	53.65 (31.81)
Non-Patient	78.00 (12.24)	73.15 (16.98)	77.85 (17.89)	80.95 (12.59)	77.55 (17.88)	77.50 (16.29)	84.45 (15.18)
VASCB							
Psychiatric Suicidal	53.80 (32.42)	51.35 (30.69)	49.30 (33.18)	57.15 (29.92)	61.25 (28.85)	57.55 (32.83)	65.90 (28.92)
Nonpsy. Suicidal	53.65 (35.38)	58.15 (31.31)	74.25 (30.57)	77.55 (30.71)	72.15 (32.26)	77.25 (27.92)	84.45 (24.58)
Nonsuicidal Psychiatric	62.85 (27.48)	69.35 (24.63)	71.70 (19.68)	71.15 (27.25)	71.75 (24.79)	69.20 (25.09)	72.10 (20.64)
Non-Patient	85.25 (13.88)	85.15 (15.16)	87.40 (13.32)	83.85 (21.24)	84.70 (18.16)	85.00 (18.81)	86.60 (20.92)

VASCC

Psychiatric	61.50	60.60	64.15	67.60	66.45	74.60	74.20
Suicidal	(35.47)	(36.59)	(41.33)	(38.93)	(36.61)	(34.49)	(39.99)
Nonpsy	73.10	69.80	77.20	84.15	81.85	84.05	91.75
Suicidal	(33.64)	(32.24)	(28.38)	(21.14)	(27.60)	(25.91)	(14.67)
Nonsuicidal	71.90	76.75	83.25	78.35	79.60	70.00	77.3
Psychiatric	(26.87)	(21.85)	(17.57)	(28.49)	(24.96)	(29.85)	(27.51)
Non-Patient	97.35	95.55	96.40	97.05	93.75	95.60	98.15
	(4.39)	(7.46)	(7.53)	(9.09)	(13.91)	(10.18)	(4.13)

Appendix D

Variables employed in Cluster Analysis

Variables employed in the Cluster Analysis

Motivational Variables

suicidal threats in the previous three months 1=no, 2=yes

psychiatric diagnosis 1=no, 2=yes

symptoms experienced in the last three months

1=no symptoms

2=symptom score 1-6

3=symptom score 7-12

4=symptom score 13-18

subject rating of depression as motivating factor for attempt

score= $x/15$

subject rating of extrapunitive of attempt

score= $x/18$

subject rating of alienation

score= $x/15$

subject rating of operant motivation

score= $x/15$

subject rating of modelling

$$\text{score} = x/15$$

subject rating of avoidance

$$\text{score} = x/15$$

subject rating of tension reduction

$$\text{score} = x/9$$

subject rating of janus face

$$\text{score} = x/12$$

Life Events in the Previous Twelve Months

1=no, 2=yes

recent impairment of health

pregnancy in self or family

recent death in family

recent school or work difficulties

recent financial difficulties

recent legal troubles

recent mobility

recent marital/family disturbance

1=no

2=score 1-6

3=score 7-12

4=score 13-18

Facilitating Factors

drinking heavily &/or taking non-prescribed or excessive drugs or
medicine in previous three months

1=no, 2=yes

The Suicide Attempt

predicted untreated outcome

1=death certain

2=death probable

3=death unlikely

4=death impossible

self-poisoning

1=no, 2=yes

self-injury

1=no, 2=yes

impulsivity of the act

1=less than 5 minutes

2=less than 1 hour

3=less than 1 day

4=more than 1 day

previous attempts

1=no, 2=yes

index of life endangerment

endangerment score= $x/15$